DOCUMENT RESUME

ED 466 933 CE 083 519

AUTHOR	Smith, Peter; Wakefield, Lyn; Robertson, Ian
TITLE	Preparing for Flexible Delivery: Learners and Their Workplaces.
INSTITUTION	National Centre for Vocational Education Research, Leabrook (Australia).
SPONS AGENCY	Australian National Training Authority, Melbourne.
ISBN	ISBN-1-74096-032-7
PUB DATE	2002-03-00
NOTE	104p.; Funded by the National Research and Evaluation Committee (NREC).
AVAILABLE FROM	National Centre for Vocational Education Research, 252 Kensington Road, Leabrook, South Australia 5068, Australia (Cat. no. 763). Tel: 08 8333 8400; Fax: 08 8331 9211; e-mail: vet_req@ncver.edu.au; Web site: http://www.ncver.edu.au. For full text: http://www.ncver.edu.au/research/proj/nr0023.pdf.
PUB TYPE	Reports - Research (143) -- Tests/Questionnaires (160)
EDRS PRICE	EDRS Price MF01 Plus Postage. PC Not Available from EDRS
DESCRIPTORS	Adult Education; Cognitive Style; Corporate Education; *Delivery Systems; Education Work Relationship; Employer Employee Relationship; Flexible Scheduling; Foreign Countries; *Industrial Training; Inplant Programs; Learning Activities; On the Job Training; Skill Development; Teaching Methods; *Work Environment; Work Experience Programs
IDENTIFIERS	*Australia (Victoria); *Work Based Learning

ABSTRACT

Research identified feasible strategies to support flexible delivery in operating workplaces. Sites were 12 enterprises in Victoria. Findings indicated flexible delivery was largely implemented by enterprises through the provision of a range of learning opportunities that included on-the-job observation, practice and mentoring, access to learning resources, and access to external training provision; provision of structured observation and demonstration was considered feasible, but assistance to learners in development of skills of self-directed inquiry was not; provision of a range of learning opportunities and learning resources was common; enterprises acknowledged individual differences in learning styles and instructional preferences; all enterprises engaged in communities of practice; involvement of learners in identifying their own learning goals and activities was considered more feasible at higher levels of enterprises; tension between production time and learning time was clear, particularly at lower levels; factors shown to be related to feasibility of given strategies concerned availability of time, perceived skills of supervisors, and forms of learning network acknowledged as present and encouraged; and variations were related to size, geographic distribution, level of formality in the enterprise structure, procedures, and expected training outcomes. (Appendixes include 121 references, instrument, and enterprise profiles.) (YLB)

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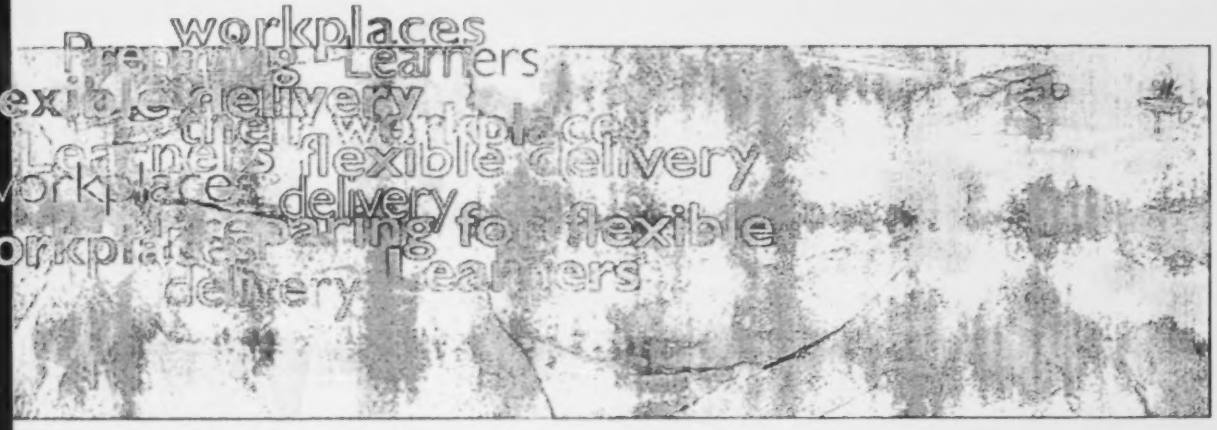

Preparing for flexible delivery

Learners and their workplaces

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ISBN 1 74096 032 7 web edition

TD/TNC 69.08

Published by NCVER
ABN 87 007 967 311

252 Kensington Road, Leabrook, SA 5068
PO Box 115, Kensington Park, SA 5068, Australia
www.ncver.edu.au

Contents

Tables and figures 4

Acknowledgements 5

Executive summary 6

Background to the research 11
- Overview 11
- Audiences for this report 12

Flexible delivery in the workplace 13
- Concepts of flexible delivery 13
- Development of workplace knowledge 18
- Flexible delivery in the workplace 19
- The workplace as a learning environment 21

Preparing for flexible delivery 27
- Learner preparedness for flexible delivery 27
- Workplace preparedness for flexible delivery 29
- Workplace preparedness—what the learners say 30
- Proposed model of flexible delivery preparation in workplaces 34
- The strategy space 36
- The current research focus 37

Research questions and method 38
- Purpose of the study 38
- Research questions 38
- Research methodology 38
- Ethical considerations 40
- Selection of research sites 40
- Approaching enterprises 41

Results 43
- Interview results 43
- Focus group results 59

Discussion and recommendations 63
- Discussion 63
- Suggested directions for implementation 72
- Suggested directions for policy and research 78

References 80

Appendix A: Interview data-collection instrument 85

Appendix B: Enterprise profiles 90

Appendix C: Letters of invitation and plain language statements 97

Tables and figures

Tables

1 Workplace-based strategies used by learners to construct knowledge during training 31
2 Summary of feasibility of identified strategies for the development of self-directed learning 49
3 Summary of feasibility of identified strategies for the development of skills and conceptual knowledge 50
4 Summary of feasibility of identified strategies for the development of skills for structuring knowledge in a community of practice 50
5 Summary of feasibility of strategies identified for the development of training policies 55
6 Summary of feasibility of strategies identified for the development of training structures 56
7 Preparing training personnel 1—feasibility of strategies identified to support development of the learning skills of workplace learners 57
8 Preparing training personnel 2—feasibility of strategies identified to support the development of skills and conceptual knowledge among learners 58
9 Preparing training personnel 3—feasibility of strategies identified to support the development among learners of participation in a community of practice 58

Figures

1 Two-dimensional representation of factors describing VET learner preferences 29
2 Model for development of preparedness for flexible delivery in the workplace 36
3 Diagrammatic representation of suggested enterprise-based learner-centred development system 74
4 Framework for interpretation and implementation of feasible strategies to support flexible delivery in the workplace 77

Acknowledgements

The authors acknowledge the valuable contribution made by many people to this research.

First, we thank the National Research and Evaluation Committee (NREC) for its funding support, without which we could not have conducted the project.

Second, we most particularly thank the companies, the managers, and the supervisors who gave us access, and who so generously gave us their time for the interviews and the focus groups. We also thank them for their generosity in sharing with us, their thoughts, their experiences, and their practices. Confidentiality forbids us from identifying them by name, but our appreciation of them is strong.

Next we thank the people who assisted us with comment and advice in the development of the project and its methodology, and who worked with us to review our interpretation of the results.

In the same way we thank the independent reviewer, who remains anonymous to us, but who provided comment throughout, and which we found insightful, useful, and practical.

Finally, we thank the two data transcribers who worked so tirelessly in converting our many audio-cassettes to text, prior to analysis.

Executive summary

Purpose

While the flexible delivery of training in workplaces is widely acknowledged as a powerful tool to aid the development of skills and knowledge, there is evidence both from research and practice that some barriers to its successful implementation exist. These barriers can be identified in two major areas.

First, the research literature and anecdotal evidence clearly identifies that learners in workplaces may not always be ready for the self-directed forms of learning that underpin successful flexible delivery. There is evidence that learner preferences are predominantly for instructor-led programs of instruction engaged with in social environments. There is also evidence that the detailed strategies of self-directed learning may not be well developed in these learners.

Second, there is also research and anecdotal evidence that enterprises are not necessarily clear about the sorts of processes and policies they need to have in place to support effective flexible delivery. There are issues associated with the value placed on flexible learning within enterprises—its competition with production imperatives and the accessibility of human, physical and learning resources needed to support flexible learning. There are also issues relating to the new skills that trainers and supervisors may need to acquire to develop and support flexible learners.

This research was designed to identify strategies that may be available to support learner development and workplace development, and that are feasible for implementation in operating workplaces faced with different sets of competing priorities. In addition, the research was designed to provide a basis for making suggestions for the implementation of feasible strategies. The report provides a number of suggestions of strategies and their implementation.

Method

The research was conducted in 12 different enterprises within Victoria. The 12 enterprises represented a range of size and industry sector, with some enterprises located in the metropolitan area of Melbourne, and others located in regional cities. Geographic spread of the enterprise was also a variable in the research, with some being contained entirely on one site, and others distributed across wide geographic areas within Victoria and across Australia.

Our research was based on the experience with flexible delivery of enterprises and their personnel. For that reason, all enterprises contributing to the research were already well-disposed towards flexible delivery, and had implemented it in one way or another. That is an acknowledged limitation in this research.

In each enterprise our method was to interview the manager who had overall responsibility for training. In some enterprises the training manager's role was dedicated only to training. In other enterprises training responsibility was a part of a wider set of responsibilities, normally associated with human resources. In smaller enterprises the training responsibility was part of an even broader set of responsibilities. The interviews were designed to elicit information on strategies that training managers saw as being feasible for implementation in their enterprise; those they saw as feasible but their view was qualified; and strategies they identified as difficult for implementation, and probably not feasible within the context of their enterprise.

We also conducted focus groups with supervisors of staff and trainers in enterprises. Those focus group sessions were designed to elicit information on the feasibility of strategies for implementation at the workplace level, and to learn from those supervisors the strategies that they used to support learners in flexible delivery environments.

Results

Flexible delivery was largely implemented by enterprises through the provision of a range of learning opportunities that included on-the-job observation, practice and mentoring, access to learning resources, and access to external training provision where that was seen as necessary.

Results of the study indicate a number of broad strategies considered feasible by enterprises. These strategies relate to the development of new knowledge in a framework of existing knowledge and workplace practice; and the provision of access to other people in the organisation to assist learners in knowledge and skill development. Provision of structured observation and demonstration was considered feasible, but assistance to learners in the development of the skills of self-directed enquiry were not considered feasible. It was generally assumed that learners have those skills already.

The provision of a range of learning opportunities and learning resources was common among enterprises, with these features being more developed among larger enterprises or those with geographically distributed workforces. There was acknowledgement of individual differences in learning styles and instructional preferences. Enterprises catering to these differences normally did so by making a range of possibilities available from which learners could make limited selections. Communities of practice were engaged by all enterprises, and some had developed intentional communities of practice designed to support particular individuals, or the development of particular skill and knowledge sets.

The involvement of learners in identifying their own learning goals and learning activities was considered more feasible at higher levels of enterprises than at lower levels. More liberal, rather than vertically organised learning networks were apparent

at higher levels, associated with greater learner autonomy at those higher levels. The tension between production time and learning time was clear, particularly at lower levels of organisations. That tension was acknowledged and managed where an enterprise agreement (EA) specified training or time-out for training.

Feasible strategies for workplace development of flexible delivery support were identified in the area of training policy that included statements of the value of training to the enterprise, the forms of training and assessment available, the provision of learning resources and 'expert others' to assist, and the availability of external training. Strategies relating to time-out for training were more qualified in terms of level of staff to be trained, and the arrangements within enterprise agreements and production schedules.

Factors that were shown to be related to the feasibility of given strategies in enterprises concerned the availability of time, perceived skills of supervisors, and the forms of learning network acknowledged as present and encouraged. Variations were also related to size, geographic distribution, and the level of formality in the enterprise structure, procedures, and expected training outcomes.

Conclusions and suggested directions

The literature review indicated that those workplaces which have developed an effective training environment are characterised by the following:

- development of articulated training policy that indicates the valuing of learning and learners
- implementation of training structures that provide access to identified trainers and other personnel, and space in the production schedule to enable learning to occur
- skilling training staff to support:
  - development and management of self-directed learning
  - acquisition of needed skills and knowledge
  - engagement in the community of practice at the workplace to support authentic learning
  - availability of learning resources—human, physical, courseware

The research showed that a majority of the strategies identified are feasible for implementation in enterprises; others are supported only in a qualified way; and a small number were perceived as largely infeasible. Clearly, a sufficient number of the strategies for learner preparation and workplace preparation were considered feasible for enterprises to select from a wide range of strategies that will enhance their experiences with flexible delivery. These strategies and suggestions for implementation are shown in detail in the final chapter of this report.

Apart from the detail of those strategies and their implementation, several broad suggestions can also be made.

Further research

It is important to recognise that this research which addresses strategies for the development of learners and their workplaces to enable them to participate more effectively in flexible delivery is one of a very small number of research projects. We

recommend that the research be extended in its scope with further enterprises, and that the issues of support be investigated at greater depth than we have been able in one project.

There are limitations in the present research due to the selection of only a limited number of enterprises that were already experienced with flexible delivery. There are also limitations in our methods such that research employing different methodologies could be effectively carried out to provide further data.

Development of self-directed learning skills

In the development of policy at vocational education and training (VET) authority level, and of funding arrangements to support policy, ongoing attention should be paid to the development of processes that will enhance the readiness of workplace learners for flexible delivery. Specifically, there is a need for the development of programs that will assist learners and their trainers with the development of self-directed learning skills.

We acknowledge that VET authorities at both Commonwealth and State levels are aware of these issues, and have already taken steps to investigate them and to develop appropriate measures. The same is true of VET research organisations such as the National Research and Evaluations Committee. However, the increasing interest in the provision of online programs of training necessitates a vigorous pursuit of the development of programs to facilitate self-directed learning, to ensure that the expenditure in these new developments provides for good returns to investment in terms of training participation and outcomes.

Developing systems within enterprises

Vigorous attention should also be paid to developing systems within enterprises to assist in the successful support of flexible delivery through adequate policy, process, resources and training management and delivery. There is a need for more to be done with and for enterprises to provide adequate support for the development of effective strategies. Such work needs to be undertaken at VET authority level and at enterprise levels.

Again, it is acknowledged that there is already interest and support provided in this area through a number of different projects. At the enterprise level, however, there is need for very practical support in the development of these support strategies. There also appears to be a need for enterprises to consider the importance of the training efficiency and lifelong learning that can result from processes that supplement vertically driven training systems with more liberal learner-controlled systems that develop a greater sense of ownership.

Workplace training programs

Attention should be directed to the programs available to trainers and supervisors which facilitate the development of skills in workplace training. Increasing the attention paid to self-directed learning, enquiry, needs identification and self-directed learning activities in programs such as the Certificate IV in Workplace Training and

Assessment would be a useful and practical step towards the development of required trainer skills.

It is acknowledged that, to some degree, the current certificate IV already addresses these issues through a number of modules, but a strengthening of this emphasis in a context of an expectation of greater commitment to flexible delivery through new technology-mediated delivery processes is advisable.

Business opportunities for registered training organisations

Registered training providers, both public and private, should investigate the business opportunities that may exist for them in the development of consultancy skills and programs to assist learners and workplaces in their attempts to become better prepared for flexible delivery.

Currently, considerable business opportunities exist for registered training organisations (RTOs) and similar training institutions to assist enterprises with the development of flexible learning materials and resources, and technology-mediated systems of delivery. Considerable opportunities also exist for the development of resources to underpin training packages and other enterprise training outside the scope of training packages. Consulting firms, private RTOs, and public providers, such as technical and further education (TAFE) institutes and universities have responded to calls from the marketplace. Many of these organisations also possess the skills to assist enterprises to develop policies, processes and skills to support flexible learning, and may find commercial value in doing so.

Background to the research

Overview

The research was designed to identify feasible strategies to support flexible delivery in operating workplaces. For this research we identify 'flexible delivery' as training delivery methodologies that are decided upon by the enterprise or the learner involved: thus, it is at the enterprise level that the form of the training and its learning objectives are identified. That means that the methods used are largely under the control of people in the enterprise—decisions are made on the use of methods, such as structured or unstructured observation, practice, mentoring, buddy systems, as well as whether learning resources are developed in-house or supplied from elsewhere.

Previous research has indicated that the successful implementation of flexible delivery in workplaces faces two major forms of barrier. First, there is evidence from Australian and international research that learners are not well-equipped to engage with self-directed learning which is a necessary component of effective flexible learning. Research has indicated that vocational learners in workplaces prefer to engage in programs of instruction that are structured by their instructor, and that provide opportunity for learning to occur in social environments. There is evidence for a preference towards learning goals provided by instructors, and a low preference among these learners for the development of their own learning goals and learning activities to achieve those goals. Besides their preferences for structured programs delivered in a social environment, there is also evidence that the learning strategies required for self-directed and more independent learning are not well-developed.

Previous research also indicates that enterprises and the workplaces within them are not necessarily well-prepared for the support of flexible delivery. Evidence indicated that many enterprises had not been able to develop the policies, procedures and structures to support learning that required a learner to engage in the wide range of learning activities available as flexible delivery. Moreover, there is evidence that training and supervisory personnel in enterprises need some assistance in developing strategies to support learners engaged in flexibly delivered programs of training.

These potential barriers to effective flexible delivery were addressed in previous research through the identification of a number of strategies which may be useful to enterprises in developing a flexible learning environment and useful to learners in their development of the skills of self-direction to enhance their participation in flexible delivery.

The research undertaken for this project was designed to assess the feasibility of strategies, previously identified through research, for learner development and

workplace development in operating workplaces. Within the constraints of physical, financial, time, and human resources available to enterprises, the strategies identified through research may not be amenable to implementation. Enterprises have an over-riding imperative for production and the maintenance of production schedules. They also have finite resources and skill ranges. Strategies for the effective support of flexible delivery have to be achievable within these constraints.

To assess the feasibility of different possible strategies to support flexible delivery in workplaces, we engaged the assistance of 12 enterprises varying in size, industry sector, geographic locality, and geographic distribution of their workforce. In each enterprise we interviewed managers with responsibility for training. We also conducted focus groups with selected supervisors and trainers with a responsibility for staff at operational levels. From the information gathered we then developed a wide range of feasible strategies for enterprises to select from and to implement to enhance the effectiveness of their flexibly delivered training programs.

Audiences for this report

The report has been prepared and organised for a number of audiences, each of whom will have different needs:

- vocational education and training (VET) authorities at both Commonwealth and State levels, to assist with the development of policy relating to flexible delivery
- the VET research community, which will have an interest in the wide-ranging and up-to-date reviews of research literature from Australia and overseas developed in the early chapters of this report, together with the research method employed and the findings
- enterprise-based management personnel who have a responsibility for training policy development and oversight within their organisation. We have organised the final chapter of this report to enable ready access to the information and the identified strategies that will serve to assist flexible delivery implementation in workplaces
- VET practitioners in public and private training organisations who are concerned with the delivery of programs to be adopted by learners through flexible means. The report is organised to enable these practitioners to choose the depth to which they wish to explore the substance of this report. Some will find useful the literature reviews of research and the experience of others, as well as the set of strategies identified in the final chapter. Others will simply wish to read the final chapter on feasible strategies and their implementation

Flexible delivery in the workplace

In this chapter we will explore concepts and definitions of 'flexible delivery' in the context of other terms, such as 'open learning' and 'distance education'. Also examined in the chapter is some of the literature on the development of workplace knowledge, flexible delivery in the workplace, and of the characteristics of workplaces as learning environments. A more detailed review of this area can be found at Smith (2002).

Concepts of flexible delivery

Ellington (1997) has traced the origins of the term flexible learning to the 1970s, when the Flexible Learning System was developed in the United States for use in schools. The Flexible Learning System was a package designed for teachers to assist children to develop problem-solving attitudes and skills, and with a focus on shifting problem-solving in the classroom from teachers to pupils (Yinger & Eckland 1975). In Britain, Ellington has traced the term to the early 1980s and observes that, by 1986, there was sufficient activity for the Association for Educational and Training Technology to make flexible learning systems the theme for its Edinburgh conference. At that conference, Roebuck (1987) defined flexible learning as an approach which is characterised by flexible approaches to educational provision and the design of ways of meeting learners' needs, embracing open learning and self-study.

The concept of meeting learners' needs was captured in Misko's (1994) discussion of flexible delivery as a 'client-focussed' approach to the delivery of education and training, enabling the learner considerable flexibility in choice of place of learning; level of content to be learned; actual content to be learned, and the method through which the learning takes place. She listed the forms of learning available with flexible delivery as:

- *competency-based learning*
- *discovery learning*
- *self-paced learning*
- *resource-based learning*
- *group-paced learning*
- *mixed modes of learning*
- *integrated theory and practical learning*
- *integrated on-the-job and off-the-job learning*
- *problem-based learning*

(Misko 1994, p.3)

Coupled with these forms of learning are the components of the definition of flexible delivery proposed by the Flexible Delivery Working Party (1992), which recognised that flexible delivery provides students with greater flexibility in:

- delivery modes
- delivery venues
- assessment practices

The working party suggested several features of flexible delivery, each of which was seen as providing considerable advantages for training. Flexible delivery has the potential to enable considerable customisation towards learner preferences, learner needs, enterprise contexts and enterprise needs. Through access to a wide range of learning resources, and a wide range of teaching options, it is possible for a learner to assemble the resources that best fit learning preferences and needs, and the teaching methods that are most favoured, to yield a learning experience that is comfortable and effective. Selection of resources and favoured teaching methods may best be achieved with guidance provided to the learner, rather than the learner being left to make these decisions alone.

The Flexible Delivery Working Party (1992) proposed the following definition of flexible delivery:

> *Flexible delivery is an approach to vocational education and training which allows for the adoption of a range of learning strategies in a variety of learning environments to cater for differences in learning styles, learning interests and needs, and variations in learning opportunities.* (Flexible Delivery Working Party 1992, p.2)

A difficulty with this definition is that it implies that all teaching that is not 'flexible delivery' is rigid in method, content and expectation and that, without flexible delivery, teachers would take no account of learner needs or circumstances.

Burns, Williams, and Barnett (1997) have interpreted the definition to mean that flexible delivery is characterised by the following key features:

- flexibility in terms of entry, course components, modes of learning and points of exit
- learner control and choice regarding the content, sequence, time, place and method of learning
- appropriate learner support systems
- the application of learning technologies where appropriate
- access to information on courses and services
- access to appropriate learning resources
- flexible assessment processes (Burns, Williams & Barnett 1997, p.16)

Burns, Williams and Barnett (1997) acknowledge that this set of characteristics is based on the widest possible view of flexible delivery systems and, by implication, they do not suggest that all flexible delivery must encapsulate all of these characteristics. Indeed, where accreditation processes demand the achievement of a defined set of learning outcomes or, where a specific set of competency outcomes is demanded, there is unlikely to be substantial learner control over content or sequence. In addition, there can be restrictions on time and place of study in a workplace environment. However, the new training packages (ANTA 1997) with outcomes expressed in competencies, do enable choices about content and sequence to be made within the non-endorsed components. A strong theme in the literature on flexible

delivery is an emphasis on these characteristics of learner control, rather than provider control, over content, sequence, rate of progress, methods, and time and place of learning (Evans & Smith 1999).

In 1996, the Australian National Training Authority's National Flexible Delivery Taskforce adopted the definition:

> *Flexible delivery is an approach rather than a system or technique; it is based on the skill needs and delivery requirements of clients, not the interests of trainers or providers; it gives clients as much control as possible over what and when and where and how they learn; it commonly uses the delivery methods of distance education and the facilities of technology; it changes the role of trainer from a source of knowledge to a manager of learning and a facilitator.* (ANTA 1996, p.11)

This description is precisely that proposed by Johnson (1990, p.4) to define 'open learning', and captures the two aspects most commonly associated with flexible delivery—extended access to learning through the removal of barriers, and a philosophy of learner-centred provision where learner choice is the key. The relationship between the terms 'open learning' and 'flexible delivery' is further explored later in this chapter.

Although the Australian National Training Authority (ANTA) adopted this description as a definition, Peoples, Robinson and Calvert (1997) point out that there is ambiguity about whether the 'client' is the enterprise wanting the training carried out, or whether the 'client' is the individual learner. Peoples, Robinson and Calvert (1997) observed that 'flexible delivery' encompasses two separate developments in VET. First, there is the demand by industry and employers for greater flexibility in the delivery of training and, second, there is demand for a more student-centred approach to learning and teaching. Peoples, Robinson and Calvert (1997) differentiated between flexible delivery and flexible learning when they wrote:

> *Flexible delivery is managing and organising vocational education and training programs/courses/modules in ways that meet the needs of clients—industry, enterprises and learners; and,*
>
> *Flexible learning is planning, developing and facilitating a range of learning strategies that meet the needs of individual learners.* (Peoples, Robinson & Calvert 1997, p.8)

These definitions are useful, but it can be argued that the Peoples, Robinson and Calvert (1997) definition for flexible learning may be better applied to the term 'flexible teaching'. The acts of planning, developing and facilitating are not the acts of a learner, but those of a teacher. It can be argued that flexible learning is the result of flexible teaching, without suggesting that flexible learning can only occur as a result of flexible teaching. Flexible learning may be, for example, the result of a self-directed study program, problem-solving situation, or just the actions taken to satisfy an individual's curiosity (Clardy 2000). Flexible learning may also take place in the context of a very rigid teaching paradigm, where the learner invokes flexibility not provided for in the instruction. Adoption of the term 'flexible teaching' enables the brief insight that flexible delivery is the application of flexible teaching to a particular teaching task or situation.

In everyday educator parlance, and in the literature, the term 'open learning' is sometimes used interchangeably with 'flexible delivery'. Furthermore, the notions of distance education are invoked as part of a description of flexible learning and its methods. The Australian Senate Employment, Education and Training References

Committee (1994) inquiry into open learning attempted to clarify the term open learning when it wrote:

> *The term 'open learning' means different things to different people and it is not always possible to be sure that those who use the term are talking about the same aspect of education when they employ it. For the Committee, the term 'open learning' implies a freedom and diversity of learning options for the student. Open learning as a concept has been in existence for many years, as the long record of distance education in Queensland attests. But open learning is not simply distance education under another name. Open learning needs to be flexible, student centred, and to offer opportunities and choices that structured and conventional delivery of courses may not presently allow at least in higher education—whether on campus or off campus.*
>
> (Australian Senate Employment, Education and Training References Committee 1994, p.7)

As Rumble (1989) suggests, open learning is a very different concept from distance education. Rumble argues cogently that education practices fall on a continuum between contiguous and distance modes of teaching, but where on the continuum a practice lies has nothing to do with its openness. Rumble concludes by observing that:

> *The concept of open education is ill-defined but has to do with matters related to access, freedom from the constraints of time and place, means, structure, dialogue and the presence of support services.* (Rumble 1989, p.41)

He points out that distance education systems may be quite closed, and not meet the criteria for openness that he has established. A different insight into the distinction between distance education and open learning is provided by Edwards (1995), as part of his analysis of these terms in a post-Fordist context. Edwards suggests that distance education, with its emphasis on provision of learning opportunities at a distance '... is consistent with a Fordist model of organisation in which mass produced products are available to a mass market' (Edwards 1995, p.242). In contrast, Edwards sees open learning, similarly to flexible delivery, as being more market-sensitive with a greater emphasis on meeting the needs of the learner/consumer. He also sees the 'privileged discourses of providers' (Edwards 1995, p.250) being replaced with discourses that place the learner, as consumer, in the centre. In his suggestion that technologically mediated knowledge provides the vehicle for individualising learning, Edwards sees that distance is subservient to the discourse of open learning, and becomes 'reconstituted as relationships between producers and consumers in which knowledge is exchanged on the basis of the usefulness it has to the consumer' (Edwards 1995, p.251). It is through that notion of subservience that Rumble's and Edwards' analyses provide a congruence with, as Rumble (1989) has argued, the continuum of distance being independent of that of openness. This relationship between open learning and flexible delivery was further explored in the report of the Australian Senate Employment, Education and Training References Committee, part 2 (1995) when it suggested that:

> *If open learning is considered an expression of a certain educational philosophy, the notion of 'flexible delivery' favoured by the VET sector may be considered as an education and training strategy which emerges from the philosophy.*
>
> (Australian Senate Employment, Education and Training References Committee 1995, p.7)

A similar relationship between the terms was used in the abstract of a paper by Lundin (1998), when he wrote 'The rapid growth in flexible delivery of open learning and distance education ...', indicating a view of flexible delivery as a strategy, or set

of strategies, within open learning or distance education. Lundin's paper suggests that the same interrelated usage of the terms that occurs in Australia is evident in the European Community. Lundin examines the use of the terms in each of the countries of the European Community, and concludes that it is evident that open learning and flexible learning are characterised by:

- some degree of learner control and choice regarding content, sequence, time, place, and method of learning
- a necessity for learner support systems
- employment of technology where it is seen to be appropriate and affordable
- availability to learners of learning resources

It is noteworthy that Lundin's examination of flexible learning includes the use of technology only as a possible means of delivery. Similarly, Misko (1994) did not specifically include technologically mediated forms of learning delivery in the forms of learning that she identified for flexible delivery. That is not the case with all writers, where some (for example, Cunningham et al. 1997, p.23) see the use of technology as being a characteristic of flexible delivery. Although that confusion is evident both in the literature and in everyday conceptualisations of flexible delivery, it has become common for the Lundin view to be more accepted—where technology may be a feature of a flexibly delivered program of instruction, but it is by no means a defining characteristic.

The inclusion of the notion of learner control over content, sequence, and length of time to complete the program in the conceptualisation of flexible learning is, however, crucial in the provision of learning programs to enterprises (Evans & Smith 1999). Behind the inclusion of those notions in flexible learning is the fundamental idea that flexible learning is learner- (or customer) controlled rather than being provider-controlled. However, in the context of enterprise training, this again raises the question of who is the learner and who is the customer. While the learner is likely to be an individual within the enterprise, that person may not be the customer. King (1996) examined the language used in ANTA reports at that time and concluded that the principal client was seen as the enterprise, rather than the individual learner.

Support for this view of customer control being central to the concept of flexible delivery was also expressed by Evans and Smith (1999), while Ellington (1997) captured the key characteristics of flexible learning within this notion of learner control when he wrote:

> *... I would suggest that we all try to promote the general adoption of this wider interpretation, and start using the term 'flexible delivery' as a generic term that covers all those situations where the learners have some say in how, where or when learning takes place—whether within the context of traditional institution-centred courses or in non-traditional contexts such as open learning, distance learning, CAT schemes, wider access courses or continuing professional development.* (Ellington 1997, p.4)

There appears to be little reason to distinguish strongly between the terms flexible learning and open learning but, instead, to accept that these two terms are reasonably interchangeable. Ellington (1997) has observed that over the years the term 'flexible learning' has been in currency, it has come to have the same meaning as 'open learning'. There is also some evidence that the term 'flexible learning' has been more favoured in the vocational education and training sector, while open learning has been

preferred in higher education (Ellington 1997; Evans & Smith 1999; Australian Senate Employment, Education and Training References Committee 1994).

In the current research, flexible delivery has been defined to include the notion of customer control over content and sequence, with learners accepting at least some responsibility for directing their own learning activities to achieve identified learning outcomes. That acceptance of responsibility for self-direction brings with it the expectation that at least some of the learning will take place in a context of independence from instructor guidance and control, and from constant instructor presence.

Moreover, the current research is very clearly focussed on flexible delivery as it occurs in operating workplaces, to achieve learning outcomes associated with the work of the enterprise.

Development of workplace knowledge

The constructivists hold that learners construct knowledge from the circumstances in which they experience that knowledge (von Glasersfeld 1987), with the construction being viewed as an ongoing interpretive process which is reinforced by past and ongoing experiences. Individuals make sense of knowledge in an interpretative and constructive way, rather than internalising externally derived knowledge. Accordingly, as Rogoff (1995) argues, the appropriation of knowledge is not just the internalisation of externally derived stimuli, but rather the individual's construction of those stimuli. In this context, communication is more than a one-way transmission and reception (Pea 1993). Instead, it is viewed as a dynamic two-way process in which meanings emerge in the space between the learner and the more expert other. This proximal guidance (Vygotsky 1978) may involve the learner in joint problem-solving and the construction of knowledge is progressively realised. Consequently, individuals collaboratively construct a common grounding of beliefs, meanings and understandings that they share in activity (Pea 1993) through a culture, or community, of practice (Lave & Wenger 1991). Through this process of meaning negotiation individuals arrive at understanding. Although more distant forms of guidance (Vygotsky 1978), such as observing and listening, provide important guidance (Billett 1994a), they may not be able to provide access to knowledge which is opaque or hidden. Billett argues that the close guidance of a more expert other can assist with making accessible knowledge which is remote and can assist the individual's construction of this knowledge.

The arguments for the importance of social construction of knowledge and reflective learning in the workplace are further supported by Marsick (1988) in her strong criticism of the behaviourist influence in the development of training. Marsick argues that the behaviourist model does not enable the development of all required knowledge in the workplace, although she suggests that behaviourism may be a useful paradigm for the development of specific skills. Marsick's central arguments are grounded in the need for people in modern organisations to be prepared for change, and to have a level of independent thinking and risk analysis commensurate with expectations of a globally competitive community. More recently, Billett (1996a, 1998a) has also provided evidence and argument to indicate that the behaviourist

approaches to learning in the workplace are inadequate. He has argued that situated learning is co-constructed from cognitive processing and socio-cultural interaction.

The literature on constructivism and transformation of learning is consistent in the view that meaning negotiation, knowledge appropriation and concept development are dependent, in part at least, on access to a more expert worker, a mentor or, in Vygotsky's (1978) terms, to proximal guidance. It appears, therefore, that reliable skill development beyond the procedural knowledge level is likely to require more than training manuals or manufacturers' handbooks. Guidance by a fellow human being, and opportunity to explore through questions, discussions, and action learning are also necessary. This conclusion is emphasised by Brown (1997) when she observes that learning resources cannot replace teaching in its entirety, since there is a continuing need for human interaction to achieve inspiration, motivation and role modelling.

Flexible delivery in the workplace

Accepting the view that the construction of workplace knowledge requires interaction with trainers or more expert others, and some form of interactivity between the learner and the material to be learned, begs the question of how this can be best provided through flexible delivery in the workplace. In an industry setting the advantages of resource-based flexible training are the opportunities for learning on an individual worker basis, learning that is sustainable within shift and production schedules, and a minimisation of the need for expensive one-to-one instruction and demonstration from a more expert trainer. Clearly, for flexible delivery that is at least partially based on resource-based learning to achieve those advantages, techniques to provide for conceptual development and skill development through problem-solving and interactivity must be built into the learning program and its delivery. Garrison (1995) warns against what he calls 'naïve constructivism' where 'educators have a blind faith in the ability of students to construct meaningful knowledge on their own' (Garrison 1995, p.138). In similar vein, Cornford and Beven (1999) argue that:

> *Leaving learners, particularly novices, to piece together a picture of the complex workplace environment without guidance is more likely to result in incorrect and fragmented understandings.* (Cornford & Beven 1999, p.28)

Collins (1997) takes this warning further and advocates that a complex modern society and workplace necessitates that learners be taught to learn through cognitive apprenticeship, as proposed by Collins, Brown & Newman (1989). Cognitive apprenticeship, Collins argues, has a number of features that lend themselves to deployment among workplace learners:

- authenticity—material to be learned is embedded in tasks and settings that reflect the uses of these competencies in the real world
- interweaving—learners go back and forth between a focus of accomplishing tasks and a focus of gaining particular competencies
- articulation—learners articulate their thinking and what they have learned
- reflection—learners reflect and compare performance with others
- learning cycle—learning occurs through repeated cycles of planning, doing, reflecting
- multimedia—each medium is used to do what it does best

Collins argues that a cognitive apprenticeship is an effective way to develop learning strategies among learners, since robust knowledge has to be both situated and unsituated, and that:

> *... powerful abstractions are needed to organise the knowledge, but those abstractions must be grounded in real situations. Much of the expert's learning is working out the mappings between situations and abstractions.* (Collins 1997, p.9)

In Collins's view of goal-based learning in the workplace, learners are given the tasks they need to learn, and the scaffolding that they need to carry out these tasks. Other writers (Brown, Collins & Duguid 1989; Rogoff 1984; Young 1993) have shown problem-solving applied to authentic tasks to be an important process in the acquisition of situated knowledge.

In a study focussing on the sorts of issues that the current research intends to inform, Billett (1996b) has, through observation and data-collection in the workplace, investigated the effectiveness of a number of different resource-based learning materials, and compared them with what he calls 'everyday practice' (Billett 1996b, p.18). Specifically, Billett investigated print-based materials, computer-based learning resources and video resources. Also investigated were learning strategies based on everyday practice and human interaction in the workplace, such as workplace mentors, direct instruction, observation and listening, other workers, and the work environment. Billett observed and interviewed fifteen process workers over a four-month period. The findings of Billett's investigation showed that everyday practice was consistently viewed as more effective in achieving workplace knowledge, and that engagement in authentic activities was a major contributor to effectiveness beyond that afforded by instructional materials. Billett (1996b) writes:

> *It is held that the ongoing and continuous participation of routine and non-routine problem-solving, which engages and presses the learner into securing complex forms of knowledge, is a significant attribute of everyday practice.* (Billett 1996b, p.24)

Billett also acknowledges, however, that resource-based learning materials provide access to propositional knowledge which may not be readily accessed through workplace practice, and which contains concepts that may be opaque in the everyday workplace environment. He concludes that, although resource-based learning materials have an important part to play in the development of workplace knowledge, they need to be utilised in conjunction with the guidance available through interaction with others in the workplace. In the course of developing a general model for individual and organisational development, precisely the same conclusion has been drawn by Sadler-Smith, Down and Lean (2000) in their research with 235 training management personnel in British firms. They have concluded that training methods implemented through on-the-job experience are more effective and more favoured, both by training management personnel and employees, than are resource-based and independent training methods. Sadler-Smith, Down and Lean speculated that flexible learning methods based on use only of packaged learning resources had been more enthusiastically embraced by privileged groups such as managers, than by employees who are the targets for such training.

Effective progress from the novice to the expert stage (Dreyfus 1982) requires the development of knowledge that Di Vesta and Rieber (1987) have identified as flexible, durable, transferable and self-regulated, leading to understanding that provides for material to be assimilated and integrated into the learner's knowledge

structure. The need for this level of understanding in the development of workplace knowledge is repeatedly commented upon in the literature (for example, Berryman 1993: Glaser 1982; Kidd 1987; Redding 1995; Ryder & Redding 1993) as necessary in an age of increasingly complex workplace tasks and equipment. Ryder and Redding (1993, p.75) comment that these sorts of changes have 'shifted the demands on human performance from primarily physical to primarily cognitive', while Collins (1997) has associated the need for learners to take responsibility for their own learning. Socio-cognitive constructivist theory provides that such learning is achieved by the learner taking responsibility to construct meaning actively through self-dialogue or dialogue with others. Kember and Murphy (1990, p.42) observed that 'learners are not empty vessels waiting to be filled with knowledge', but approach each learning task with their own personal beliefs, motivations and prior knowledge.

In conclusion, it is clear that effective flexible delivery does more than provide the learner with packaged learning resources, to be used in a self-directed or independent learning sense. Also needed are clear connections to the context within which the new knowledge is to be used, and access to human interaction that may be provided through mentoring, demonstration, problem-solving and opportunity for discussion with fellow workers or learners.

The workplace as a learning environment

McKavanagh (1996) compared classroom learning settings with workplace learning settings on five dimensions—support, clarity, independence, collaboration, and innovation. That research showed that, compared with classroom learning, learning in workplaces is:

- more clearly defined
- more collaborative
- more innovative

but

- less supportive
- characterised by less independence

Implications for skilfulness and adaptability are explored by McKavanagh (1996) in terms of concerns for vocational learning. He observes that current trends are towards individualised computer-based and print-based training on the one hand, and towards learning while working on the other. The study shows that learning in which learners are isolated from the instructor and their peers can lessen support for learning. Moreover, learning which is centred only at work may focus too narrowly on technical skills, which may increase productivity in the short term, but which is not conducive to the development of an adaptable workforce. McKavanagh's observations on the potential isolation of the learner provide warnings for workplace training in the context of research already reviewed that indicates that effective conceptual learning presupposes forms of interactivity that include discussion, action learning, questioning. These findings resonate considerably with the constructivist work by Billett (1996a, 1998a, 1998b) and others, reviewed earlier in this chapter. McKavanagh's findings raise the question of whether or not an enterprise is prepared to support learners with a more expert worker or a trainer where this increases the

expense of training. While the isolation of learners can be effective where the learner's preference in style is for self-direction this can be problematic, as Boote (1998), Smith (1999, 2000a, 2001a), and Warner, Christie and Choy (1998) have shown, since VET learners are not characterised by a preference for, or skills in, self-directed learning.

Field (1997) identified that notions of quality outcomes for training varied considerably, with some enterprises viewing a quality outcome as specific skill development, while others saw it as development of broader generic knowledge as well. In the Field (1997) study it was also evident that firms varied in the value they placed on trainer skills. While some firms did not have staff trained as trainers at even the most rudimentary level, other firms placed considerable value on the skills of their trainers. Finally, some firms were shown to be concerned with who was assigned to assist trainees, since there was a desire to avoid the transmission of obsolete skills, while other firms were much less sensitive about this issue.

Hawke (1998), like Field (1997), observed that workplaces vary greatly on a range of features which influence the development and delivery of formal training programs:

- the extent to which learning is valued and rewarded within the enterprise
- the role of knowledge in setting the competitive climate for the enterprise
- the size of the workplace or site
- the range of products, processes and/or services provided by the workplace
- the capacity and willingness of the workplace to network with other related organisations

Robertson (1996) showed, in his research in small business, that course content and activities need to be relevant to the enterprise, and that the enterprise needs to be able to clearly define its training needs (see also Billett 1993b). He also concluded that course content needs to be clear, concise, well-organised and supported by course materials. Robertson suggested there is a need for adequate facilities and equipment at the workplace, a view also expressed by Taylor (1996), and that the workload of the enterprise had to be such as to enable authentic training experiences. In addition, there is a need for the workplace to value workplace training and to see it as part of the organisational structure (Billett 1993a; Business Council of Australia 1990; Ford 1990). Robertson's research indicated that trainers/supervisors need to have clear roles and be clearly identified as having the primary training responsibility for the particular trainee (see also Brooker & Butler 1997; Harris et al. 1998). Also indicated in the research was a tension in the expectations enterprises had on people undergoing training. On the one hand they believed that trainees should ask questions, but that they needed to accept the supervisor's answer. On the other hand, they believed that trainees should be challenging of current practice (Harris et al. 1998; Whittaker 1995). Robertson concluded that there were few workplace-based training programs that included:

> *... documented workplace supervisor roles, or structured and documented workplace training and/or assessment. In the few cases where workplace based training and assessment was structured and documented, the programs were delivered in enterprises of more than 20 employees.* (Robertson 1996, p.20)

In an apprentice training context, Brooker and Butler (1997), and Harris et al. (1998) have shown results similar to those of Robertson (1996). Brooker and Butler's (1997) work involved a detailed analysis of the learning structures put into place by six varied workplaces that employed apprentices. The findings of that part of their

analysis indicated that only one of the six enterprises was able to outline a complete structure of training for their apprentices. Although all of the other five enterprises had incorporated some support structures for apprentice learners, there was considerable diversity in a context that none had well-developed structures. A summary of the interviews with trainers identified that workplaces were characterised by unstructured training, an expectation that the initiative to learn would come from the apprentice, apprentices work alone, that production imperatives often overtake learning objectives, and that feedback is only given on a completed job. More recent work in Australia by Strickland et al. (2001) has reported similar observations in a high proportion of the workplaces and apprentices they studied. In the United Kingdom, Calder and McCollum (1998) have made similar remarks, particularly in the case of smaller enterprises.

Further evidence of the need for structures in the workplace to support learning is provided in research by Harris et al. (1998) who have shown that apprentice training in the workplace is characterised by 'just happening' (p.124) in a context of no clear training plans, nor identifiable trainers. The need for clear mentoring or training roles has also been noted by Brooker and Butler (1997), Rojewski and Schell (1994) and Smith (1997). Furthermore, additional support for the need for planning of training within the workplace is provided by Brooker and Butler (1997), Calder and McCollum (1998), Harris et al. (1998), and Unwin and Wellington (1995). Cornford and Gunn (1998) have also noted that a lack of planned teaching and training presentations are major impediments to effective learning in the workplace. Each of these writers has commented on the wide variability between enterprises in how well training is planned, with some enterprises being haphazard (Harris et al. 1998) in their approach.

Training policy is important within enterprises in order to establish the importance of training, and the legitimacy of training taking place within the production schedule. Both Harris et al. (1998) and Calder and McCollum (1998) have pointed to the tensions that exist for learners as workers, where the need to engage in training activities is viewed in the enterprise as conflicting with production needs or as taking time out from work. Calder and McCollum (1998) have identified this tension most particularly with regard to flexible delivery, where that view of time-out is applied more to learners engaging in independent learning than it is where learners are removed from the workplace to attend a formal training activity. Similar comment has been made by Evans (2001) in his observation that staff in enterprises they interviewed often expressed the view that they were in the business of production, not of training. Recognising the limitations of small firms in providing sufficient breadth of up-to-date skills among existing staff to assist in the development of other employees, Sadler-Smith, Gardiner, Badger, Chaston and Stubberfield (2000) have developed a model of collaborative learning. The model is based on the identification and meeting of individual and small firm knowledge needs through the use of external learning advisors and training organisations.

Unwin and Wellington (1995) have observed the importance of enterprises legitimising training activity and training outcomes through clearly articulated training policy, while Harris and Volet (1996) have identified the need for support and commitment to training to be clear within the enterprise. Unwin and Wellington (1995) pointed not only to the need for clearly articulated and supportive policy, but also to the need for enterprise behaviour to exemplify that commitment. Lave and

Wenger (1991) and Fuller (1996) have each observed the need for learners to feel a sense of value and belonging. Lave and Wenger expressed the view that the peripheral participation in workplace activity by learners is legitimate, and as learning develops, becomes less peripheral and more central to the work of the enterprise. The notion of the 'spiral of responsibility' (Kornbluh & Greene 1989) is similar in the suggestion that learners need to be given more and more responsibility for legitimate work as learning develops. This movement from legitimate peripheral participation towards participation in central activities requires recognition in policy and in enterprise training practice (Brooker & Butler 1997; Hayton 1993; Kornbluh & Greene 1989; Lave & Wenger 1991). The increase in skill level through enterprise training also may require the planned introduction of diversity of experience within the scope of the work of the enterprise (Brooker & Butler 1997; Hayton 1993). In addition, since the scope of enterprise work may not provide the authentic tasks necessary for the development of all skills required (Evans 2001), learning experiences through external training providers or other enterprises may need to be sought.

Billett (1993a, 1994a), and Brown, Collins and Duguid (1989); Lave and Wenger (1991), and Vygotsky (1978) have each argued that within a socio-cultural context of learning, individual activity is guided by a culture or community of practice, and that authentic tasks are necessary (even defined by) that community of practice. The community of practice is socially and historically derived and the performance of tasks is influenced by the values and the expectations that characterise that community. The authenticity of a task can be defined within that community of practice (Billett 1993a; Brown, Collins & Duguid 1989). The successful establishment of a community of practice enables the workplace learner to appropriate the culture, values and ethos of the workplace (Brooker & Butler 1997; Fuller 1996), as well as providing the framework for interaction between learners, trainers, and other more expert workers. A successful community of practice is typified by an understanding that communication between learner and trainer is expected (Billett & Rose 1996; Cunningham 1998; Pea 1993). It is also understood that the communication between learners, trainers, and more expert workers is a legitimate method of meaning appropriation and understanding, of identifying relevant knowledge, and of testing knowledge (Berryman 1991; Caine & Caine 1991; Collins 1991). Billett (1996b), Brookfield (1986) and McKavanagh (1996) have each suggested the importance of peer-to-peer interaction in the negotiation of meaning in workplace learning. Work by Brooker and Butler (1997), Harris et al. (1998) and Unwin and Wellington (1995) has indicated that the involvement of learners in the communities of practice within workplaces is largely unplanned and unstructured. Hall et al. (2000) have also concluded from their research that workplaces are generally not well-prepared for making use of training packages as part of workplace training strategies.

In conclusion, the literature review would indicate that workplaces that have developed an effective learning environment have paid attention to matters such as:

- development of articulated training policy that indicates the valuing of learning and learners
- implementation of training structures that provide access to identified trainers and other personnel, and space in the production schedule to enable learning to occur
- skilling training staff to support:
  - development and management of self-directed learning
  - acquisition of needed skills and knowledge

engagement in the community of practice at the workplace to support authentic learning

- availability of learning resources—human, physical, courseware

There are also indications that enterprises contain some different forms of learning and learning networks, and that the practices of human resource development are associated with their business strategy. Poell et al. (2000) have recently proposed that learning networks within organisations may take several different forms, and that any individual may be participating in more than one sort of network at any given time.

Within learning network theory the different forms of network are termed 'liberal', 'vertical', 'horizontal' and 'external'. These learning networks have been applied by Poell et al. to workplace learning, adopting the same terminology. Each learning network mirrors the features of a work network such that Poell et al. have developed a theoretical framework that associates the social dynamics of learning with the type of work being carried out and the culture of the enterprise. Henry (2001) has described these forms of learning network succinctly.

In brief, a liberal learning network is where individual employees create their own learning activities. Consequently, learning policies are implicit, program development is under the control of employees and implementation is self-directed. The profile tends to be unstructured and the organisational relationships (roles and responsibilities) are loosely coupled to the organisational mission through negotiations amongst actors (worker and management). The learning climate is one that values an entrepreneurial learning attitude. 'Organisations that take seriously the notion of employee empowerment ... are likely to develop liberal learning networks' (Poell et al. 2000, p.36).

A vertical learning network is defined by linear planning. Learning policies are developed by management and translated into action through pre-designed learning programs by human resource departments and delivered to employees by training staff. The profile is heavily pre-structured and learning activities focus on simple technical task improvements. This learning network has a centralised organisational structure dominated by management through formal relationships with the other actors. The learning climate is a highly regulated one dominated by rules and regulations. Poell et al. (2000) observe that the vertical learning organisation 'is common in many large organisations and, despite growing unpopularity associated with Taylorism, it still plays a dominant role in organisational reality' (p.36).

The horizontal learning network is characterised by 'organic integration' as opposed to 'mechanical planning' (Poell et al. 2000, p.36). Learning activities develop from experience as learning programs go forward. Learners are facilitated by process counsellors in the learning programs they create. The profile is open and thematic with learning activities that are organisation-oriented but problem-solving in focus. Teams are the key actors. Roles and responsibilities are structured through horizontal and egalitarian relationships, and the learning climate blurs the distinction between learning and work. The horizontal learning network 'gained popularity through the extensive literature on learning organisations where the total integration of learning and work seems to be advocated' (Poell et al. 2000, p.36).

Finally, there is the external learning network which is co-ordinated by professional associations beyond the organisation. Learning policies are 'inspired' from new

developments in the employees' professional field, and the resultant learning programs are in reality work innovations based on these new developments in the field. Organisations take up these innovation-oriented programs by allowing their employees, as learners, to be advised by external actors on how best to adapt their work to the innovation. The profile is methodical in that it is based on externally developed new work methods and the aim of the learning activities is to improve the professional capabilities and work standards amongst the organisation's employees. The learning roles and responsibilities are externally directed and defined through professional relationships.

It is envisaged in this current project that the concept of learning network theory may be a fruitful way in which to interpret some of the data relating to strategies to support flexible learning. Accordingly, we foreshadow here that we will address this possibility later in this report.

Preparing for flexible delivery

Smith (2000b) has identified that effective flexible delivery in workplaces requires that the learners are capable of some degree of self-directedness in their learning. Also required is the development of learning strategies necessary to appropriate knowledge from packaged learning materials and from the other human and physical resources available in the workplace. In addition, Smith (2000b) has identified the need for workplaces to be prepared for the support necessary to flexible learners. Those supports are largely associated with the requirements of workplaces as effective learning sites identified in the previous chapter.

In this chapter we examine the notion of learner preparedness for flexible delivery, and workplace preparedness. We also draw extensively on past research (Smith 2000b) in other workplaces to provide an insight into the experiences of learners developing knowledge through flexible delivery in the workplace. Finally, we provide a schematic model of flexible delivery preparation in workplaces, as a structure around which this research has been framed.

Learner preparedness for flexible delivery

Boote (1998) has argued that flexible learning for vocational learners requires:

> *... a level of learner responsibility and control to self-manage or self-direct learning. Such personal responsibility for learning assumes a level of metacognitive skills.*
> (Boote 1998, p.60)

Similarly, Atkinson and McBeath (1990), Brew and Wright (1990) and Evans (2000) have argued that flexible delivery necessitates more learning management by students, and a greater emphasis on the learning process or, in Brockett and Hiemstra's (1991) terms, greater self-direction.

Boote (1998) concluded:

> *There appears to be an assumption that VET students either are already self-directed in their learning when they commence VET training or will gain the skills in self direction as an automatic outcome of VET training.* (Boote 1998, p.82)

Smith's (2000b) research with the learning strategies used in the workplace by apprentices confirms Boote's (1998) findings that vocational learners are typically ill-equipped for flexible learning. Using an extensive set of metacognitive, cognitive, and social/affective strategies derived from the work of Marland, Patching and Putt (1992) in distance education, and from Billett's (1996b) research in the workplace, Smith (2000a) showed that, among apprentices, the metacognitive strategies required for

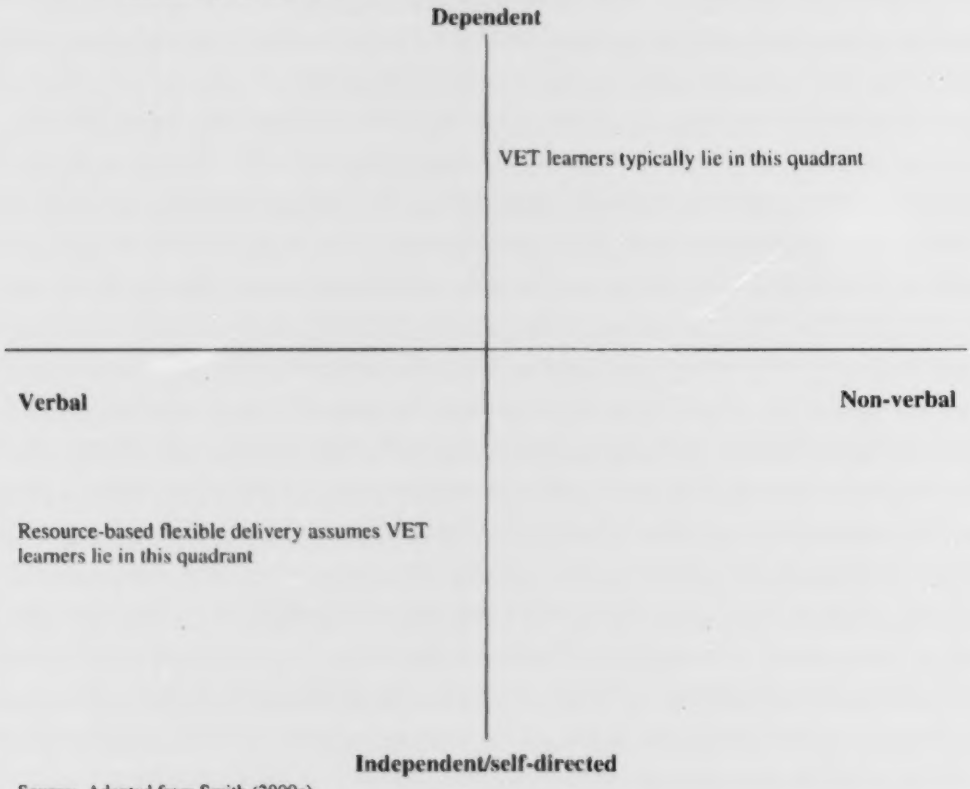
effective controlling and directing of learning, and for generating new learning were poorly developed and seldom used. The cognitive strategies associated with the appropriation of knowledge and skill from structured learning sessions were much better utilised, while social and affective strategies that included learning from others were variably used, depending to a large degree on the nature of the workplace, its supervisory characteristics, and its social dynamics. Beckett (1997) has noted that collegial contexts for learning have been a hallmark of instruction with vocational learners, and calls into question whether flexible delivery can be successful without considerable human instructor or mentor support.

Research focussing on learner preferences and styles also provides considerable evidence that vocational learners are not well-equipped for flexible delivery. In the United Kingdom, Calder et al. (1995) have noted that learners, and most particularly the younger ones, will require considerable assistance if they are to engage successfully with the more open learning associated with flexible delivery of training.

Empirical research with the learning preferences of vocational learners has been undertaken in Australia by Warner, Christie and Choy (1998), and Smith (2000a, 2000b, 2001a). Warner, Christie and Choy's research with 542 vocational learners in three States of Australia to identify learning preferences showed that the majority of vocational learners in their sample were not favourably disposed towards self-directed learning. Neither were they well-disposed towards forms of learning that did not include instructor-provided structure and guidance. A number of factor analytic studies of vocational learner preferences (Smith 2000a, 2000b, 2001a) have shown similar results. Smith (2000a) has shown that apprentices favour learning in structured environments that provide opportunity for learning through direct social interaction with their fellow learners and with their instructors. The apprentices also exhibited a distaste for learning sequences that were presented through verbal means such as reading or listening. Their strong preference was for learning through hands-on experience, demonstrations, and practice. Similar findings were made in Smith's (2001a) research with technology learners in vocational training programs, where there was clear preference for collaborative learning, for learning that was structured and controlled by an instructor, and a low preference for verbal presentation of material to be learned. In a further study of 1252 vocational learners, Smith (2000c) established a two-factor structure of vocational learner preferences. That factor structure clearly showed the tension that exists between the preferences of these learners and the demands made of them by flexible learning that is based on independent and self-directed learning. That tension is shown in figure 1.

Figure 1 provides a diagrammatic representation of a major challenge facing successful flexible delivery where there is an expectation of self-directed and independent learning. Coupled with evidence, reviewed earlier, that vocational learners have typically not developed the metacognitive strategies to support self-directed learning, it would appear that the challenge to flexible delivery is formidable, and requires careful strategies underpinning its implementation if it is to be successful.

Figure 1: Two-dimensional representation of factors describing VET learner preferences



Source: Adapted from Smith (2000c)

Workplace preparedness for flexible delivery

Brooker and Butler's (1997) research focussed on the training structures within enterprises employing apprentices, and found widespread inadequacies in the planning and structuring of apprentice learning in the workplace, and in the workplace support for those learners. Similar observations have been made by others (Cornford & Gunn 1998; Fuller 1996; Harris et al. 1998; Unwin & Wellington 1995).

Lack of training policy and structures at the enterprise or workplace level has been identified by each of the cited studies. Calder and McCollum (1998) showed that a high number of enterprises in the UK had no training policies nor training plans; Brooker and Butler's (1997) work in Australian enterprises indicated a lack of policies, while Harris et al.(1998) have made a similar observation. Unwin and Wellington (1995) have also drawn attention to the lack of integrated enterprise policies for training in the Modern Apprenticeships in the UK, such that the apprentices involved did not feel that they belonged to the enterprise. They were not embraced in a community of practice nor, in Lave and Wenger's (1991) terms, were they viewed as legitimate peripheral participants. Smith's (2000b) work, along with that of Brooker and Butler (1997) has shown that it is common for apprentices to have

no identifiable trainer. Moreover, Strickland et al. (2001) has shown the different expectations held by the various stakeholders in apprentice training result in different views of experience and requirements.

Clearly, no analysis of workplace preparation for flexible delivery can ignore the need for the learners to develop the skills and concepts necessary to competently carry out the tasks required of them. Accordingly, processes to develop skills are seen as important in the development of workplace preparedness, but there is considerable evidence that these training processes are not well-developed in enterprises (Brooker & Butler 1997; Calder & McCollum 1998; Strickland et al. 2001). The research cited here indicates that these processes are somewhat haphazard, unplanned, and reliant on learners 'having a go' or watching and trying to 'pick it up' (Harris et al. 1998). Adequate support for skills training in enterprises requires provision of organised demonstrations, practice, trialling (Billett. 1993a); the selection of authentic tasks (Billett 1993a; Young 1993); provision of feedback on task performance (Brooker & Butler 1997; Smith 1997); and exposure to a diversity of skill experiences (Brooker & Butler 1997; Hayton 1993; Evans 2001). There is also the need, as noted above, for the organisation of demonstrations, the time-out from production to enable practice, and for the progressive development of expertise through 'scaffolding' and subsequent withdrawal—where new learning is undertaken through a mentor who gradually withdraws as the learner becomes more proficient (Farmer, Buckmaster & LeGrand 1992).

Finally, the development of processes to result in a community of practice are an important component of becoming prepared for support to flexible delivery. Developing a community of practice depends on communication between practitioners and the acceptance of each (Lave & Wenger 1991). It also depends on learning about the organisation, its values, and one's place in it (Billett 1993b). Mezirow (1991) and Welton (1991) have each taken the view that learning is an action shaped by the interests of the learner, but also shaped by the interests of the workplace and its trainers (Harris et al. 1998). Several writers have argued that communication between the learner and another more expert worker is necessary to acquire skill (Billett & Rose 1996; Pea 1993), and that communication is an integral part of conceptual development in the workplace (Billett 1994a, 1994b; McKavanagh 1996). A community of practice also requires commitment to observation and guided practice (Billett 1994a, 1994b; Collins, Hawkins & Carver 1991). That community is enhanced by locating learners close enough to a more expert worker such that observation and discussion can occur in a casual and continuous way (Harris et al. 1998).

Workplace preparedness—what the learners say

This section draws on research previously conducted by Smith (2000b), focussing on the forms of socio-cultural and independent learning strategies commonly used in the workplace, and the experiences of learners in trying to use them. The methodology employed in that study was to adapt a number of strategies proposed by Billett (1996a, pp.274–6), and to interview a range of workplace-based learners in their usage of those strategies in the workplace. The interviews were conducted using a semi-structured interview schedule, and a modified stimulated recall technique (Marland 1984). That technique involved interviewing learners as they recalled their

progress through an example of their own workplace flexible learning, and asking them to reconstruct the processes that they used to develop knowledge and understanding.

The data presented in this chapter draw on the original eight apprentices used in the Smith (2000b) study, plus another six learners involved in business office and accounting work, or in technological work in science or engineering.

The set of socio-cultural or independent learning strategies and their definitions, as used in this study, are shown in table 1.

The results of the Smith (2000b) investigation are summarised below.

Worker observation was seen by the learners as valuable, but only about half of them engaged in it, and those learners reported using it infrequently. Reasons given for infrequent use of a strategy they saw as valuable were that they found it difficult to refrain from asking questions as they observed, and that was often discouraged; and that they did not work closely enough to more skilled workers such that they could casually observe. Their supervisors did not commonly allow them to move away from their own work station to observe others (Unwin & Wellington 1995). The hairdressing apprentices, who worked in small salon environments, found observation of other workers much easier since their work stations were in close proximity to others.

Table 1: Workplace-based strategies used by learners to construct knowledge during training

Strategy	Definition
Worker observation	Unstructured observation of a fellow worker carrying out the task as part of everyday work
Demonstration	Structured observation of the process being demonstrated by a fellow worker
Discussion with fellow worker	Discussion with fellow worker to assist in knowledge development
Discussion with trainer	Discussion with trainer or supervisor to assist in knowledge development
Scheduled class	Attendance at a formal training program to assist in knowledge development
Environment observation	Unstructured observation of the workplace to identify visual cues from artifacts, objects and physical arrangements
Trialling	Trialling in real workplace of knowledge gained from learning program
Experimentation	Trying out an idea on equipment or process to test own understanding
Problem-solving	Finding a solution to a problem requiring relevant workplace knowledge
Practice	Engaging in practising the tasks being learned
Other resources	Reference to other text, visual or auditory resources to facilitate understanding

Source: Smith (2000b), adapted from Billett (1996a, pp.274–6)

Demonstration was embraced enthusiastically by the learners as a strategy for learning, and they liked the opportunity to ask questions during demonstrations. These demonstrations were typically not structured by the enterprise, but were initiated by the learner and normally provided by a more skilled worker or the supervisor. However, some reservations were expressed about this technique since repeated requests for demonstration of the same technique drew adverse comment from

supervisors and, as one apprentice put it, her seniors '... would think I'm stupid if I ask too often ...' (see also Harris et al. 1998).

Discussions with fellow workers were commonly engaged, with learners seeking these discussions with more expert workers, or with other learners who were more advanced. One apprentice said that he liked to have less-experienced apprentices seek him out for discussion since talking to them also helped him develop his own knowledge (Berryman 1991; Caine & Caine 1991; Collins 1997). Discussions also varied in type, with some being a general discussion of the trade or the business, and sharing experiences, while other discussions were focussed on a particular skill. These discussions appeared easy enough for learners to engage in, but were typically conducted during work breaks since workplaces were reluctant for that form of possibly lengthy conversations to occur during scheduled work periods.

Discussions with trainers or supervisors varied widely, dependent on the circumstances of each learner. Learners in the smaller enterprises seemed to find this easier since there was more daily contact with supervisors who were also working on the shop floor. In larger enterprises this appeared to be more difficult, since the supervisor tended to be removed from the shop floor, was less accessible, and less inclined to talk with the apprentices. Particularly among the apprentices, there was comment that the teaching skills of their workplace supervisors compared poorly with their instructors at the training provider. Similar comment was made in research by Brooker and Butler (1997), and Harris et al. (1998).

Participants were also asked in the interview if they enjoyed *scheduled classes* provided by external training organisations, and if they found them valuable. Rather revealingly, these classes were seen by all learners as valuable, since it enabled them to ask questions and request repeats of demonstrations with the advantage, as one respondent put it, that '... you don't get yelled at ...'. Scheduled classes also gave them a welcome opportunity to interact with the instructor and other learners, and to form a social context for learning. Repeated practice of a skill, along with guidance, was also seen as a valued feature of scheduled classes. At the workplace the imperative was to achieve the technique at the first try, or time and money was wasted and the customer may not be pleased with the quality of the work. A further valued feature of scheduled classes was that they were normally conducted by experienced instructors who knew the theory and who could explain it in a clear way.

Environment observation was not frequently used. First, learners did not see this as an effective learning strategy since it was too unstructured and, second, supervisors saw them as wasting time if they left their work station to observe the broader operations of the workplace. One rather pessimistic apprentice said he would like to do it but 'I would get a smack in the head for wasting time'. Calder and McCollum (1998) have observed that, in their study of UK workplaces, supervisors saw unstructured observation as time-wasting. Clearly, the imperatives of production were embraced by supervisors as more important than training (see also Brooker & Butler 1997; Evans 2001; Harris et al. 1998; Whittaker 1995).

The strategies of *trialling and experimentation* were valued by interviewees, but other issues in the workplace restricted them. A major issue reported by the majority of learners was that trialling and experimentation had to be carried out in a restricted way, since their enterprises had established particular methods of production such that

experimentation and trialling of different methods was not encouraged. Furthermore, there were issues of safety which concerned enterprises where experimentation was involved, particularly among the two electrical apprentices. The hairdressing apprentices pointed out that trialling and experimentation on the hair of customers was clearly not welcomed by either the customer or the supervisor, but they were expected to experiment and trial on dummies. The form of trialling and experimentation was typically not structured by enterprises, but was carried out through the initiative of the learners themselves.

All interviewees used *problem-solving* as a form of learning in the workplace, and also saw it as necessary when they were not able to access expert guidance due to other workers all being busy at the time. It was common for problem-solving to take place in discussion with fellow workers or with a supervisor, where the problem and its possible solutions were discussed prior to an action being taken (Brooker & Butler 1997). Valuable in this exercise were the discussions that surrounded the problem and its solution, where the experience of other workers was important to the learner. Learners commonly reported that the value of problem-solving varied, and that their lack of skills and consequent lack of confidence inhibited their willingness to embrace problem-solving where the skill level was not sufficiently high.

Practising was a learning strategy valued by respondents and generally supported in the workplace provided care was taken to avoid wastage, and provided the practice did not conflict with production. Practising was generally at the initiative of the learner, apart from the hairdressing apprentices who were expected to practise during slack periods, and were provided with dummy heads to do so.

Other resources were defined as text, visual or auditory learning materials used to facilitate understanding, but not supplied with the learning modules provided by the workplace, or the training provider. Learners made very little use of other learning resources, and they generally used only the learning module material provided by the trainer. Some respondents, particularly apprentices, did not know even where the training provider's library of resources was situated. One apprentice reported using a library, but for trade-related work that was of special interest to him as a hobby. Some use was made of trade magazines, and some workplaces had trade magazines and supplier catalogues that learners found interesting and useful.

The interview data provide an indication that, similarly to the Harris et al. (1998) and Brooker and Butler (1997) and Strickland et al. (2001) findings with apprentices, workplace support for training is not often well-structured. None of the learners interviewed had been assigned an identifiable trainer or mentor in the workplace, and each of them sought their workplace instruction at their own initiative. In the case of the two Hairdressing apprentices, both of whom worked in small salons of two or three employees, the situation appeared clearer and the support more obvious. Possible reasons are not hard to find. First, in a small environment where people are working close together, it is difficult for the skill development of the apprentice to be ignored. Second, the highly competitive nature of the industry, where custom is generated largely through the very visible skills of employees, and where customers are demanding and particular, the development of skill assumes considerable importance in the eyes of a proprietor whose business fortunes depend on that skill.

None of the learners was able to be confident of their role as a learner in the workplace. They commented that, in the main, they were expected to be productive workers, although in a peripheral way (Lave & Wenger 1991). Apart from the hairdressing apprentices, there did not appear to be a considered development of their participation from peripheral to central contributors. They were also not aware of enterprise training plans, nor of plans detailing enterprise expectations of their own development. In addition, they did not work in environments where there was a stated value placed on their development, nor explicit expectations on the part that other workers might play in assisting apprentices to achieve expertise. The findings of Harris et al. (1998) with apprentices, that training tends to 'just happen', were also evident in the comments made by respondents in our study, as was the tension between learner as worker and worker as learner.

Clear from the interview evidence is that learners in the workplace become largely responsible for their own skill development, as found by Brooker and Butler (1997), and the activities used to develop that skill are largely initiated by them. Similarly, as Brooker and Butler showed, the training is unstructured. Finally, these results also concur with those of Brooker and Butler in showing that a fellow worker's time to assist learners is limited, such that the initiative is with the learner to learn, and production schedules assume higher importance than training (Calder & McCollum 1998; Whittaker 1995). Results from the interviews also indicate that, while the initiative to learn is largely with the learners, their requests for assistance are not dealt with in a predictable way. Sometimes assistance is given, sometimes it is provided with impatience, and sometimes learners feel that they are not able to ask for assistance. At other times, assistance appears to be given willingly.

In summary, the characteristics of workplaces as effective environments for flexible learning, identified earlier in this review, did not appear to be regularly identified by the learners in our sample of interviews. Training policies that valued learners and learning were not identified by interviewees, and training structures appeared to be largely non-existent or haphazard. Similarly, space for training in the production schedule was regularly identified by interviewees as not provided. Skilled training staff were also not identifiable among the interviewees and, although they generally reported that they initiated and executed their own learning, this appeared to be largely a result of lack of concern for them, rather than as part of their development towards self-directedness in their learning. Although the community of practice was largely made available to them as a resource, again this was characterised by being ad hoc at best, and grudgingly provided at worst.

Proposed model of flexible delivery preparation in workplaces

For flexible delivery to be an effective training method in the workplace, the results of research on learner preparedness, and workplace preparedness suggest that a considerable challenge lies in the development of strategies needed to assist learners, trainers and enterprise personnel, and enterprises. The findings that neither learners nor their workplaces are typically well-prepared for engagement with flexible delivery is not a reason to abandon it as a paradigm for workplace learning. As Smith (2000a,

p.497) has stated, the '... challenge lies in the development of strategies needed to assist learners, trainers and enterprises personnel and enterprises'.

Working within a higher education open learning context, Kember (1995) has identified that the development of effective open learning for adults can be considered along two dimensions. The first of these dimensions describes the development of instruction from a pedagogical orientation to an andragogical orientation, while the second dimension Kember relates to institutional organisation—moving from closed to open access.

Kember's model distinguishes between activities that relate to the development of the learner and instructional model, and those that relate to the institutional policies and contexts provided. Smith (2000a) suggested:

> *In Kember's 1995 terms, learners need assistance in moving towards the self-directed, independent end of his learner dimension, and trainers and enterprises need assistance to move along the openness dimension through the provision of support to learners who are expected to be self-directed and independent.* (Smith 2000a, p.498)

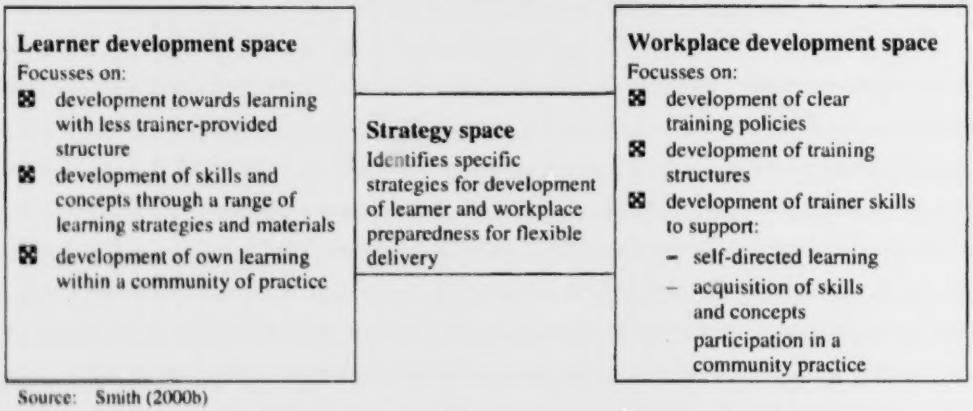
Within that two-dimensional framework of learners and workplaces, Smith (2000b) has proposed a model to assist in the identification of possible strategies to increase the level of preparedness of each. The overall, conceptual model proposed for the development of learner and of workplace preparedness for effective flexible delivery is shown in figure 2.

The model provides for the two identified dimensions of preparedness, each of which is associated with a 'development space'. The 'learner development space' draws on Smith's (2000a; 2000b; 2000c; 2001a) factor analyses to prescribe three aspects of the development of preparedness. The first suggests that learner development should be concentrated on assisting learners to become more effective, self-directed learners in a learning environment where the instructor provides less structure to the learner in terms of program detail, sequencing, tasks and learning outcomes. The second aspect provides for the learner to develop a stronger engagement with, and liking for, a wider range of learning presentation modes, such that learning is pursued and appropriated from a wider range of sources and types of material. The third aspect is towards the development in learners of the ability to structure their own learning within the community of practice in the workplace. Within that framework of the three aspects for learner preparedness, specific characteristics for development are shown within the learner development space in the proposed model. These specific characteristics are adapted from the Kember (1995) model, but developed further through an analysis of the available literature.

Continuing with the Kember two-dimensional model, the second dimension is one of workplace preparedness for effective flexible learning, and is portrayed in the 'workplace development space'. Three aspects have been identified from the literature as describing the major components of workplace preparation. The first is the development of clear workplace training policies, while the second provides for the development of training structures within the workplace. The third aspect relates to the trainer development needed to support the learner development processes identified as self-directed learning, acquisition of skills and concepts, and participation in a community of practice. The relationship between these identified aspects and those described in the Kember model is not as strong as with the learner preparation dimension. The adaptation of Kember's work to the workplace, and the

specific items to be addressed within the workplace development space of the proposed model, have been drawn from the workplace research literature reviewed earlier in this paper.

Figure 2: Model for development of preparedness for flexible delivery in the workplace


Learner development space
Focusses on:
development towards learning with less trainer-provided structure
development of skills and concepts through a range of learning strategies and materials
development of own learning within a community of practice
Strategy space
Identifies specific strategies for development of learner and workplace preparedness for flexible delivery
Workplace development space
Focusses on:
development of clear training policies
development of training structures
development of trainer skills to support:
– self-directed learning
– acquisition of skills and concepts
participation in a community practice

Source: Smith (2000b)

The 'strategy space' of the model represents a convergence of the strategies devised to develop learner and workplace preparedness in a given workplace, for its population of learners. Although these strategies will vary to some degree on a basis of the contextual characteristics of the workplace, and its learners, it is possible to suggest that the strategies devised must at least address the elements identified in the learner development space and the workplace development space.

The strategy space

Smith (2000b) has suggested a set of specific strategies that may be used within enterprises to increase the level of preparedness and, in the framework of his model, these strategies are located in the strategy space. The strategies suggested have been derived from the previous research, and the feasibility of their implementation in operating workplaces is the focus of the current research project.

Although it may be appropriate to detail the suggested strategies at this point, it has been considered more efficient to review their individual feasibility later in this report as part of the results of this research. The strategies can be summarised here as shown in the model (figure 2) and summarised above:

Strategies for the development of learner preparedness are summarised as:

- preparedness for self-directed learning in an environment of less instructor guidance
- preparedness for development of skills and conceptual knowledge through a range of learning strategies and materials
- preparedness to structure own learning within a community of practice

Strategies for the development of workplace preparedness are:

- development of training policies
- development of training structures

- preparation of training personnel to support:
  - self-directed learning
  - acquisition of skills and concepts
    participation in a community of practice

The current research focus

The review in this chapter has focussed on research that indicates that neither learners nor their workplaces are typically well-equipped to meet the demands of effective flexible delivery of training. By the development of a model that focusses on key areas requiring attention to ensure better-prepared learners and workplaces, a number of strategies can be suggested. Furthermore, it is suggested that enterprises and learners can select from these suggested strategies those they consider to be most effectively deployed in their learning contexts, and that through judicious selection, and generation of additional strategies, flexible delivery of training can be enhanced as a viable training mode. Returning to figure 1 briefly, it is suggested that the tension between the demands of flexible learning and the characteristics of the learners shown in that diagram can be reduced by the careful deployment of intervention strategies suggested by the model.

The aim of the current research project to investigate a number of possible intervention strategies in relation to their feasibility for implementation in operating enterprises. It is one thing to develop a set of proposed strategies, and yet another to ascertain the practicality of their implementation in workplaces which are subject to numerous competing demands.

Research questions and method

In this chapter we outline the purposes of the study, our data-collection and analysis methods, and the basis for the selection of the twelve enterprises which participated in the research.

Purpose of the study

The research reported here was designed to take the strategies so far developed (Smith, 2000b) to enterprises with a view to addressing the following objectives:

- validating, or otherwise, the feasibility of application within enterprises of each of the strategies identified in previous research
- the identification, together with enterprises, of other strategies either being used, or that may be applicable in enterprises
- development of implementation processes, within enterprises, for each feasible strategy

Research questions

The precise research questions to be addressed in this project are:

- Which of the set of learner development strategies identified in research to date can be feasibly implemented in operating workplaces?
- Which of the set of workplace support strategies identified in research to date can be feasibly implemented in operating workplaces?
- Can features of enterprises and their cultures be linked to the feasible implementation of precise strategies?
- How can the learner development and workplace support strategies be effectively implemented in workplaces?

Research methodology

The research was undertaken in several stages. The first stage was to prepare the strategies identified through research (Smith, 2000b) into a format ready for interview with enterprise-based personnel. The strategies identified in the original Smith (2000b) research are listed in the left-hand column of each of tables 2–9 in the next chapter (beginning p.49) of this report. Interviews were conducted with the training manager of each enterprise, or with the management person with responsibility for training in the enterprise. It was not feasible to work through every strategy with each enterprise. Accordingly, the strategies were condensed to a number of smaller sets,

with each set representing a collection of fairly similar strategies. The design of the interview schedule, and the discussion that took place with each enterprise, were intended to elicit responses to as many of the original strategies as was possible. Care would need to be taken in these interpretations, since not all strategies would be directly addressed by the interviewer.

Robson (1993) has reviewed styles of interviews, making a distinction between fully structured interviews and semi-structured interviews. In the former, the interviewer asks a predetermined set of questions and records the answers on a standardised schedule. The semi-structured interview is characterised by a set of questions developed in advance, but modifiable according to the context of the 'conversation'; the way they are worded can be changed and explanations given (Robson 1993, p.231). Robson also identifies the 'unstructured (completely informal) interview where the interviewer has a general area of interest and concern, but lets the conversation develop within this area' (p.5). Robson is careful to point out that for semi-structured and unstructured interviews to be successful, the interviewer must be experienced and have a good understanding of the sort of information being sought in the interview. In the current study the researchers were well-experienced in a range of different forms of interview, and had considerable understanding of the information being sought. A semi-structured format was chosen for the interviews with training management personnel. Clearly, the structured interview was not likely to provide interviewees with opportunity to talk and give the researchers rich information. At the same time, the researchers had a definite set of strategies to investigate through interview, such that the wide-ranging unstructured interview would be inappropriate. Robson (1993) has also pointed to the relationship between the degree of structure in an interview and its reliability. Since a completely structured interview would be likely to be too directive, semi-structure provided a compromise between reliability and effectiveness as an informant interview, as discussed by Powney and Watts (1987).

The interview schedule appears as appendix A of this report.

Interviews were audiotaped and transcribed to text. Each of the interviews was then content-analysed to provide a response to each strategy from the interviewee. From time to time the response of an interviewee to a given strategy was unclear, and these were noted as unclear on the data matrix for that enterprise.

Following the transcription of interviews to text, interviewers were provided with the text and asked to verify its accuracy.

The next stage of data-collection involved the development of a schedule of issues to explore with each enterprise through focus groups. These issues were identified with training management personnel through the transcripts of the initial interviews. Since the identified issues differed somewhat between enterprises, a broadly based focus group schedule was developed. The purpose of the focus groups was to identify ways in which feasible strategies had been implemented in workplaces, or might be implemented in the case of strategies identified by that enterprise as feasible, but not implemented.

Focus groups involve leading a discussion with small groups of people to examine how group members think and feel about the topic under investigation. Johnson and Christensen argue that focus groups:

> *... are useful as a complement to other methods of data collection. They are very useful for providing in-depth information in a relatively short period of time. In addition, the results are usually easy to understand.* (Johnson & Christensen 2000, p.14)

In the current research, the focus groups were used to elicit more detailed information from supervisors in their workplace. Focus group sessions were also audiotaped and transcribed to text. Focus groups were made up of a small number (typically 2, 3 or 4) people at first-line supervisor level in the enterprise. Focus groups sometimes also included trainers and/or managers. Implementation strategies were identified by a review of transcripts.

Ethical considerations

Conduct of the research was approved through the Deakin University Ethics Committee in November 2000. As part of the ethics considerations, approval was gained from each enterprise for participation in the research, and from each individual involved. A plain language statement was provided to each enterprise and individual prior to gaining their approval to participate. Anonymity and confidentiality for enterprises and individuals was assured through the ethics procedure, and have been maintained throughout this report.

Selection of research sites

The research design was based on a selection of twelve different enterprises. A literature scan undertaken prior to commencement of the project indicated a number of variables that any sample of enterprises needed to take into account, such that enterprises selected would, collectively, provide a range of size, industry sector, structure, range of activity, and location in terms of being in either a regional or metropolitan area. In addition, since the research required enterprises to have had experience with flexible delivery in the workplace, and to have considered it, we also needed to identify enterprises which filled this criterion. Finally, of course, we required enterprises who were willing to talk to us, and to give us the time required to collect the research data.

The enterprises selected for the study were representative of the following:

- regional and metropolitan
- range of size
- range of industry sectors and enterprise core business
- enterprises with very focussed activities represented, along with enterprises that have a wide range of services or products
- range of business structures
- enterprises with distributed workforces represented, together with enterprises that operate only on one site
- a commitment to training, as known by the researchers, and had used a range of flexible delivery techniques for training
- had a relationship with at least one of the research partners such that personal relationships enhanced willingness to participate, and willingness to talk in depth

Short profiles of each enterprise appear as appendix B, written to preserve anonymity.

Twelve different enterprises were chosen for investigation. These enterprises can be described as follows:

Manufacturing

- A large manufacturer (420 employees) of metals products, regionally located, with a strong commitment to training and to flexible delivery.
- A medium-sized (85 employees) chemical manufacturer with a strong commitment to training and flexible delivery, regionally located as the Australian subsidiary of a multi-national company.
- A medium-sized wool scouring plant (140 employees) with a strong commitment to training and flexible delivery, regionally located.
- A large electrical goods manufacturer, metropolitan-based with sites throughout Australia, and 540 employees.
- A medium-sized, regionally based, garment design and distribution enterprise (180 employees).

Human services

- A major, general-purpose, metropolitan hospital (1950 employees).
- A major employment service, metropolitan-based, but providing service through a large number of geographically distributed client centres (1200 employees).
- A specialised health service component of a local government authority (150 employees).

Retail services

- A large retail chain operating a large number of stores throughout regional and metropolitan Australia.
- A specialised food retailer operating small franchised outlets throughout Australia. Selection of that enterprise also provided us with access to the very small businesses that formed the franchisees.

Hospitality

- A small restaurant, regionally based, with around 20 employees.

Automotive

- An organisation providing support to the vehicle sales and service industry. Selection of that organisation also gave us access to the small businesses supported by the larger organisation.

From these enterprises, 12 training management personnel were interviewed, and focus groups involved a total of 32 supervisors and trainers.

Approaching enterprises

Once the enterprises selected for the research had been identified, the researchers approached the member of management in each organisation responsible for training or human resource development, by email, telephone or in person. The object of that first contact was to provide an overview of the project, and to seek in-principle agreement for participation. All enterprises approached agreed to participation at that

point. One enterprise later advised it no longer wished to be involved for time-management reasons. That enterprise was then substituted in the sample with another.

Subsequently, the ethics approval was sought and received from Deakin University, and the invitations and plain language statements explaining the research were prepared. Each enterprise was then approached in person with the letter of invitation and plain language statement, and approval was provided by a person in each enterprise who had authority to agree to participation.

Subsequently, the member of management staff with responsibility for training was approached in person, and provided with a letter of invitation and a plain language statement tailored to the request for involvement being made to that person, and agreement secured. Interviews were arranged at the convenience of that person and conducted at a site convenient to them—normally at the workplace.

During that interview the arrangements for the focus groups were discussed, and the people who would participate were identified. The focus group meeting times were arranged through the enterprise training manager, at a time and place convenient to the enterprise. Letters of invitation and plain language statements were prepared for each of the focus group participants.

Flexible delivery was discussed and interpreted with enterprise management, training managers, and focus group participants to mean training delivery methods that are decided upon by the enterprise or the learner involved, such that the form of the training and its learning objectives are identified at the enterprise level. That means that the methods of training to be used are largely under the control of people in the enterprise, so that decisions are made in the enterprise on whether to use such methods as structured or unstructured observation, practice, mentoring, buddy systems, learning resources developed in-house or supplied from elsewhere etc. Choice of instructor is also at the enterprise level, where in-house staff may be used, or people from another organisation, including a training provider. There may also be a mixing and matching of these things to yield training delivery that satisfies people at the enterprise level. Although sending people to a training provider to undertake a packaged program may form part of a flexible delivery program, it would be unlikely that the training program would be achieved only by participation in a packaged program from an outside provider.

The letters of invitation and the plain language statements are included in this report as appendix C.

Results

In developing this chapter which describes the results of our research it is important to briefly revisit the intent of this project—which was not to provide a survey of what is happening in organisations, but to identify what is considered feasible, and what is not. Of course, where a strategy is currently being used within an organisation it is clearly considered to be feasible.

This chapter is organised into two parts. The first part represents the findings from the interviews with the sample of enterprises. That overview draws together the results organised under a set of major headings:

- strategies for the development of learner preparedness
- strategies to develop workplace preparedness

Within those major headings, we have organised our results under the following sub-headings:

- what is feasible
- what seems to be too difficult

The second part of the chapter reports the results of the focus group sessions.

Interview results

Strategies for the development of learner preparedness

What is feasible

In this section we will identify the strategies that organisations identified as feasible. Many of these strategies are in place in some organisations, but not in others. We will make that clear as we work through the identified strategies.

In each enterprise we visited there was strong recognition that *new learning is best situated in existing knowledge*, such that each enterprise had some method of assessing this with individual employees. Some enterprises did this quite formally through a process of identifying existing knowledge and competencies within a formal interview or assessment paradigm, and then used that information to determine with employees other knowledge that was to be acquired. Other enterprises did this rather casually, through discussion with people while they were at their job, such that over a quite brief period of time a supervisor could build a picture of existing knowledge.

In competency-based training environments the process tended to be more formalised, and in some cases, where remuneration was associated with competencies through an enterprise agreement (EA), the process was relatively formal and recorded. What was common to each enterprise was that the process involved discussion between workers and supervisors, and developed a training expectation in both parties. The forms of knowledge supervisors were most interested in were the skills and knowledge directly required to do the job, but also of interest was an identification that workers were aware of where they fitted in an organisation, and what was expected of them in terms of 'fitting' into the enterprise culture and its behaviours and values.

Assistance to learners to understand their learning within the broader context of the workplace was sometimes undertaken through the development of learning plans that were discussed between employees and supervisors in a context of what was required in the workplace. At other times, this was achieved by developing mechanisms to ensure that new learning was undertaken within a *community of practice*, such that other workers were on hand to ensure that new learning was associated with ongoing work.

Most organisations had a mechanism for working with employees to establish individual needs for *the development of their own learning goals*, but these varied considerably in nature. Management and professional staff in most organisations had an opportunity to do this with their supervisor, and it was actually expected of them. Within that context, the development of final learning goals became a combination of those that the organisation had identified, and those that the employee had identified. Some of the larger enterprises had sophisticated systems for achieving this as part of their business planning, and had developed a range of mechanisms through which the learning could be achieved. There was little evidence that these learning contracts were progressively developed to higher levels of sophistication as the employee developed competence with learning contracts. Where there was increasing sophistication, it was usually associated with growing sophistication in performance planning and processes developed by the organisation, with learning expectations forming part of those plans. At that level, learning plans were normally not just the anticipated learning outcomes, but also included consideration of the processes and options available to achieve them. These options normally included mentoring and 'buddying', opportunities for short experiences of other jobs being done in the organisation, and the identification of external courses available to the employee.

Providing assistance to learners in the *development and negotiation of their own learning goals* was not a feature of all enterprises in the research but, where it was not a feature, it was considered feasible within some limitations. Those limitations mainly related to the setting of particular learning outcomes and, to a lesser extent, the timing of completion of learning outcomes. Two major forms of impediment were noted. First, there was a need for employee learning goals to be developed within a framework of enterprise need and, while that was considered feasible, for some organisations there was a concern that it could be a very time-consuming process for large numbers of employees at an operational level. Feasibility was accepted, but the potential resource intensity was seen as a barrier. For employees at the operational level of enterprises, it was more common for enterprises to regard the identification of learning outcomes to be a managerial responsibility, with expected learning outcomes to be communicated to employees. Another form of impediment was identified within competency-based training environments where competencies were tied to

remuneration. Again, although considered feasible, the identification of learning goals by employees was seen to lead to some difficult industrial outcomes. In summary, this strategy was seen as having limited feasibility for employees below management and professional levels.

Similarly, some enterprises did not see the involvement of employees at lower levels in the development of *their own learning contract and plans* as at all feasible. Concerns here were partly for the amount of time such a practice would involve on the part of trainers and supervisors, but there was also concern that resultant learning contracts may not be best suited to enterprise need. At the same time, these enterprises did not generally see learner involvement in the structuring of learning experiences to achieve determined learning goals as feasible. They did, however, acknowledge that there was limited feasibility in employee involvement in the identification of particular demonstrations or sequences of practice that would be helpful, and in identifying other expert workers who could assist.

Regular discussion with employees at lower levels relating to the achievement of learning outcomes was also seen by several enterprises as limited in feasibility, again because of the time that it would consume. The practice was seen as feasible where it occurred as part of everyday work, but not particularly feasible as a focussed discussion requiring time-out from production.

Below the level of management and professional staff the situations we observed were highly variable, but largely characterised by a greater degree of informality. In highly structured workplaces with enterprise agreements associated with remuneration, learning plans seemed to be largely the identification of certain competencies to be achieved in given time periods. In addition, with the exception of the human services organisations, learning goals tended to be determined by supervisory staff and the discussion with employees was more about what order these would be achieved in, when, and how. Typically involved in those discussions was *assistance in identifying authentic workplace tasks through which learning could be pursued.* Those learning plans were sometimes written but, at other times where the work team was reasonably small, they became unwritten expectations for both parties. That process was favoured by a number of enterprises, on the basis that it provided greater opportunity for ongoing discussion between supervisor and worker about their learning as it progressed, and avoided developing a potential barrier between employees and supervisors who worked together, largely as colleagues. In most of these organisations the responsibility for these learning plans was left to supervisors, with some variation between them in how well it was achieved. In the organisation where franchising was part of the business structure, the supervisor was normally the small business franchisee. It was understood by the franchising body that how learning was organised at the franchisee's location was at least partly up to the business owner.

Most organisations had *systems for monitoring the learning that took place*, normally through a process of regular review. Most typically these reviews were annual, or, in some instances, undertaken three or four times a year. Although the achievement of learning outcomes that were planned and written, or planned and mutually understood, were addressed in these discussions, the review was normally undertaken as part of performance management rather than learning management. Most organisations had also developed some type of regular meeting opportunities among staff at operational levels and their supervisors. These meetings were characterised by

the breadth of issues discussed, and normally focussed on operational issues facing the group at the time. However, matters of workplace skills and learning were also regularly discussed within that group setting. Each of the organisations reported that employees were able at any time to seek advice and feedback from their supervisor and/or trainer on learning matters as they saw fit, and felt the need. However, the enterprises did not typically have structures or processes that encouraged workers to engage in this activity, or assisted workers to identify a need for these discussions through *monitoring their own learning*. Instead, it was largely expected that employees knew how to do this.

The articulation of learned skills and knowledge was hardly addressed by enterprises as a means for developing the learning. Articulation was, in fact, often achieved through the formal and informal reviews and discussions, although one organisation did make it a practice for managers to engage staff in conversation that gave them the opportunity to articulate new knowledge. Similarly, organisations did not typically provide structured opportunities for that to happen. An interesting departure from that, however, was the franchising company that had developed a practice of providing training to the franchisees on a face-to-face basis. An acknowledged goal of that process was that the company wanted the small business operators, who were otherwise largely isolated, to network and to discuss their experiences and share them with others.

Enterprises had a number of processes to develop *learning through scaffolding*. For some, this was a deliberate part of the learning process, where new learning was undertaken through a mentor who gradually withdrew as the learner became more proficient. Others provided off-the-job training through formal classes or through structured learning materials and, where that was the case, it was not unusual for a supervisor or trainer to work with the learner to connect the off-job learning with workplace practice. In those cases there was evidence in some enterprises of a tight relationship between off-job learning and practice, but it was not a usual practice where employees were undertaking longer programs of study at external providers. Workplace connections were expected to be made by the employee and were not provided through the processes of the enterprise.

Associated with the learning through scaffolding was the *development of knowledge through a spiral of responsibility*. Other than through planned scaffolding and its withdrawal, this was achieved on a largely ad hoc basis as opportunities arose in organisations for a person to take on work at a higher level. Those opportunities were taken through the absence of another worker, or through involvement in special projects. Other than that, there was little evidence of systematic responsibility increase being seen as a form of training.

The use of a range of resources for training was broad. It appeared that good use was generally being made of expert others in the *community of practice* in the workplace, and also of the facilities of the workplace for demonstrations and for practice. Some organisations had set up training resource banks, using professionally developed learning materials, internet sites developed in-house and externally, video and print materials, as well as technical journals and magazines. One organisation had set up a simulated work environment that was used exclusively for training among geographically dispersed learners. In the main, employees appeared to enjoy good access to these resources, and there was general expectation that they should make

more and better use of them. Where enterprise agreements provided for training, there was normally *time set aside for withdrawal from production to learn*, but that was not widespread. More often, there was an acknowledged tension between production needs and time required for training. Interestingly, withdrawal from production to learn was more observable in the public enterprises we investigated than it was among the private ones. However, there was universal understanding and expectation that *employees are both workers and learners.*

Enterprises were highly variable in their approach to the provision of a diversity of experience as part of workplace learning. Some organisations were too small or too narrowly focussed in their work to provide much opportunity in-house, while others saw the provision of a diversity of in-house work experiences as very much a part of their training strategy. It was clear that the larger organisations were more able to achieve this, but it also tended to be a feature of those enterprises dealing in human services.

What was seen as too difficult

Here we identify the strategies that were seen by a number of enterprises as being simply too difficult to implement. Most often, where strategies were seen as too difficult, enterprises restricted their comment to levels of worker below managers and professional staff. The major reasons provided for the infeasibility of any strategy can be summarised as:

- too time-consuming to engage
- supervisors themselves not equipped with the skills necessary to engage the strategy
- implementation of the strategy not congruent with training plans and expectations that were largely driven by management

The strategies most commonly seen by enterprises to be infeasible largely related to the *involvement of workers in the development of their own learning goals* and learning plans, and in *the development of processes to achieve those learning goals.* On the majority of occasions, the reasons provided by enterprises for this infeasibility covered each of the three reasons identified above. However, there was no strong recognition among those enterprises that training for lower-level staff should be organised in any other way other by management.

Time out from the production schedule for the independent use of learning resources, including discussion with other workers was a difficulty for some organisations who felt that the time could not be afforded. One medium-sized company had provided a specific amount of time each week for training to take place, and had provided a well-resourced training room for workers to use on an independent learning basis with regular trainer input. That enterprise also saw the training room as an extension to the facilities offered by registered training organisations (RTOs) with whom they were working. As a qualification, the enterprise made the point that planned use of the training room could be difficult when workers were required for production because of absences by other workers scheduled at the same time. Other organisations had time-out for training purposes written into enterprise agreements. Where that was not the case, the practice was not seen as feasible, although there was a more general view that the practice would be worthwhile were it to be affordable. The link here is fairly clear—that where the training was a part of the enterprise agreement and enterprises expected skills development, and that development was tied to remuneration, there

was also expectation that time had to be made available for the training. Where that was not the case, or where the skills to be acquired were not part of the formal EA, the time was not generally provided.

Assistance to develop *the skills of structured observation and question-asking* among employees was generally not seen as feasible by interviewees. This seemed to be associated with a feeling that this would be an unnecessary practice, and that people could be expected to do these things without specifically developing them as skills. It is probable that this finding is also linked, at least at lower levels in organisations, to the view that supervisors at that level are not skilled in structured observation and question-asking.

Commonly, there was a recognition that individual employees differ in terms of their *learning styles and the strategies* that they use for learning, but it was not seen as generally feasible to take these matters into specific consideration in the development of employees, nor in the framing of individual training plans. Where this was considered worthy of consideration, the most likely approach was to provide the opportunity for a range of activities in which they could participate, or the sorts of learning experiences they might access. One large enterprise was making use of the Kolb *Learning Styles Inventory* to provide information on the learning styles evident among employees. The use of the Kolb inventory had indicated a concrete learning style which the enterprise was using as the basis for its program design and delivery. Beyond that point, differences between individuals were catered for by the provision of a number of learning experiences. As one respondent put it:

> *... we look at multi-learning style development. We do blends of various styles within a course. So we may attack something from four different angles during a course, the idea being with what we are doing it is impossible to develop a course for a specific type of style. It just isn't possible, so we have a multi-layered strategy for doing that.*

Tables 2, 3 and 4 provide a summarised form of the findings on learner preparation strategies, derived from the interviews with training personnel in the twelve enterprises sampled.

Table 2: Summary of feasibility of identified strategies for the development of self-directed learning

Strategy*	Feasibility characteristics
Considered feasible by all	
Assistance in grounding new learning goals in a context of experience, existing knowledge, and an appreciation of the place of learning in 'becoming' a expert worker	Considered feasible by all
Assistance to learners to understand their learning within the broader context of the workplace	Considered feasible by all
Assistance in the identification and accessing of other experts who can provide demonstration, discussion and guided practice	Considered feasible
Qualified feasibility	
Assistance to learners in the development and negotiation of learning goals	Affected by size of enterprise and level of employee
Assistance to learners in developing and negotiating a learning plan and learning contract, starting with limited contracts prior to developing towards more comprehensive contracts	Plans considered feasible by all Contracts affected by level, and generally part of broader performance plan
Assistance in the identification of authentic tasks and learning resources through which the learning contract is to be pursued	Considered feasible by all, but some level effects
Working with learners to develop a structured approach to completing the learning contract negotiated between the learner and trainer	Affected by level
Working with learners to develop monitoring of learning as it proceeds, and the self-evaluation of learning outcomes	Feasible generally within a formal system of review
Provision of regular discussion with learners on their learning contract	Discussion normally through formal review. Affected by level
Discussing achievements as learning proceeds, and assistance to modify learning contracts on the basis of that feedback	Normally only feasible at higher levels
Provision of opportunity within the production schedule for withdrawal to make use of learning resources.	Feasibility normally within specific EA
Not considered feasible	
Assistance with skills of structured observation and question-asking	Not generally seen as feasible

* Strategies identified by Smith (2000b)

Table 3: Summary of feasibility of identified strategies for the development of skills and conceptual knowledge

Strategy*	Feasibility
Considered feasible by all	
Providing opportunity for demonstration, structured practice, guided practice, and observation	Feasible by all
Provision of learning scaffolding and its planned withdrawal	Feasible
Exposure to a diversity of experiences and problem-solving situations	Generally feasible
Assistance in the integration of on- and off-the-job learning experiences	Feasible
Provision of access to other workplaces, or to a training provider, to enable learning of a diversity of skills and concepts not available for learning within the workplace	Generally feasible
Qualified feasibility	
Encouragement and facilitation to use a broad range of learning strategies, and a wide use of learning resources, including resources that are verbally or textually presented	Affected by training philosophy
Not considered feasible	
Provision of opportunity for deliberation, reflection, and articulation of knowledge	Generally not feasible in a formal way

* Strategies identified by Smith (2000b)

Table 4: Summary of feasibility of identified strategies for the development of skills for structuring knowledge in a community of practice

Strategy*	Feasibility
Considered feasible by all	
Development among learners of a clear understanding of the workplace ethos, values, and policies	Feasible by all
Encouragement and facilitation to learners to form relationships with trainers, supervisors, peers, and other experts to enable discussion of developing skills and knowledge	Feasible by all
Qualified feasibility	
Development among learners of their dual role as learners and as workers	Affected by philosophy of training, and level
Assistance with identification of learning objectives to be pursued through interaction with others, through discussion, demonstration, articulation etc.	Affected by level
Provision of regular opportunities within the production schedule for discussion of learning, of skills, and of work	Feasible, but normally focussed on discussion about work
Siting of learner workstations in proximity to other more expert workers	Organised for production purposes, rather than training

* Strategies identified by Smith (2000b)

Strategies for the development of workplace preparedness

What is feasible

Development of training policies

Each organisation sampled in this research had an existing training policy, but wide variations existed between them in terms of formality and accessibility. The larger organisations tended to be more formal about this and, generally, their training policy was part of an enterprise agreement, or part of a more broadly conceptualised human resource management policy. In those cases the training policy was linked to appraisal policy and, in some cases, also to affirmative action policies, and was often coupled with the procedures the organisation used to identify people for training, and to provide that training. One of these more formally developed training policies, in a medium-sized enterprise, had gone as far as to specify the sorts of workplace knowledge and skills that was expected at different levels of a task, attached to competencies required and remuneration. In that organisation, the policy was clearly available to all employees and was part of the enterprise agreement.

Other organisations had developed their training policy in more broad and philosophical terms, set in a context of organisational goals. What was generally evident in those organisations was a training philosophy that captured a notion of employee identification of need, together with supervisors and trainers, and a facilitatory attitude towards the achievement of those goals, where mutually agreed by employee and supervisor. Although facilitation of learning was also clearly identifiable among enterprises with more formal policies, there was a link between more informal training policy and more informal processes to achieve training outcomes. One large organisation with a training policy set at the philosophical level identified that the policy formed a type of 'marketing strategy' for training, designed to be attractive to employees and framed in terms of what the enterprise would make available to employees who wished to engage in training activities. In that organisation, self-identification was seen as an important part of the training philosophy.

Although training policies largely recognised the value of training to the organisation, there was little evidence of policies that *recognised explicitly the value of workers as learners*. Some enterprises acknowledged the need to make that recognition and believed it to be achieved through their practices rather than through their policy. The explicit valuing of workers as learners was seen by all enterprises as feasible, but not as particularly necessary in any formal sense. The viewing of *workers as teachers* of others was similar, with there being a recognition in practice, but seldom as part of policy.

A diversity of training experience was also not explicitly stated in training policies, but recognised through a number of practices. Most enterprises had developed mechanisms for employees to experience other jobs within the organisation, within the constraints of skill areas. In addition, they all had mechanisms available to enable employees to access training through a range of different in-house activities, such as the provision of flexible learning materials, the provision of mentoring and buddying systems, demonstrations of techniques etc. It was not uncommon for enterprises to facilitate the accessing of external courses where there was identified and agreed need. Access to external courses was normally part of training policy, as were

induction programs and buddying systems for new workers in different tasks. While two organisations did have sophisticated resource banks of learning materials in flexible delivery formats, and part of their policy was to expect these to be used for certain training outcomes, training policies did not generally run to explicit comment on the availability of learning resources and access to other workers on an as-needed basis.

More formal training policies also covered the issues of assessment that was either formal and recognised or informal.

Development of training structures

The presence of definite training structures was variable across organisations. Larger organisations were characterised by the presence of at least one person with a clear accountability for training matters. However, their roles and the practices were highly varied. One large public sector organisation had one person with a training co-ordination role, with support from line supervisors who had some responsibilities for the training of their own staff. Supervisors had a responsibility for identifying training needs and for assisting employees to meet those needs. Apart from developing training policy and broad training plans, the person with identifiable accountabilities had little responsibility for the actual training activities undertaken by employees. Another medium-sized enterprise, with only one identifiable training person, had structured the training role in such a way that it was closely involved with needs identification, largely in terms of competencies. Other tasks associated with this role included development of training plans to achieve the specified competency outcomes, development and acquisition of flexible learning resources, development of models of providing in-house at-job assistance and facilitating access to externally provided courses.

Large organisations with distributed workforces tended to have established training structures in head office environments. These structures included accountability for broad training-needs identification across the organisation; development of facilitatory mechanisms for training participation; the provision of flexible learning resources; and the provision of recording functions. In those organisations the responsibility for actual training being carried out and assessed at the worksite level lay mainly with supervisory staff at the worksite. In those distributed cases this seemed to work varyingly well, depending largely on the interest of the local supervisory personnel. In some cases, training was pursued with some vigour in local worksites, while in others it was not.

These training structures at the worksite did sometimes place an expectation on *supervisors to work with employees to develop a training plan*, and to review that plan. However, most typical for supervisors was that the plan was informally developed and informally reviewed at that level. It was not typical for supervisory staff to have any *responsibility for the development of workers as learners*, but there was a role in the provision of opportunity for workers to be put with another to learn skills identified as required. In summary, supervisors were mainly conceptualised as managers of workers, rather than as developers of workers.

Training structures also included outsourcing of training provision, and 'partnering' with a training provider. One large health services organisation had developed close links with several training providers, including a university and two TAFE institutes.

The arrangements were largely a function of the wide range of learning needs in the organisation, at several levels, and with a range of different accreditation requirements. Two medium-sized organisations and a small enterprise had developed training arrangements with a TAFE provider for traineeship programs, for the development of learning resources, and for the delivery of some training programs in-house. Particularly valued in those arrangements was the training providers' knowledge of government funding opportunities that could be deployed to the advantage of the enterprise. These 'partnerships' were not generally characterised by their formality. Instead, they were seen more as customer/client relationships that could be fairly easily changed by either party. The arrangement with the university, mentioned above, was closer to a formal agreement, since it was reciprocal and involved services that the university could access from the enterprise, as well as those that the enterprise required of the university. A similar example of a more formal partnership was developing between a TAFE institute and a large electrical engineering enterprise. In that arrangement, TAFE staff were being trained to deliver an enterprise-specific program, and students from the TAFE institute were able to participate in the enterprise program as well.

Training personnel

Identifiable training personnel in organisations had generally been supported by the management to become trained as trainers, with Certificate IV in Workplace Training and Assessment being a common qualification. One organisation had been pro-active in encouraging supervisory staff to complete the *Diploma of Management*, and reported that it had been successful in developing trainer skills among those supervisors. The major focus of training staff was the development of training needs identification; the provision of programs and recording functions; workplace assessment; and the delivery of some in-house courses. Other functions included the identification and provision of flexible learning materials and identification of externally available training programs. In smaller organisations, the person with the training function also played a role in the provision of in-house opportunities for mentoring and demonstration of work practices. In a small enterprise in the hospitality sector, two senior members of management had undertaken the small groups module from the *Certificate IV in Assessment and Workplace Training* with the specific intent of using the knowledge to improve training throughout the organisation.

Training plan development for the entire enterprise was a more readily identifiable function among training personnel than was the development of plans for individuals, although for management and professional staff the training personnel were more involved in training plan development.

The development of self-directed learning skills, or provision of an environment for that to flourish, was generally not an identifiable function, although the notion of supportive learning environments was seen to be very feasible, and several attempts to achieve that were observed in enterprises. It was considered feasible and desirable that trainers should recognise diversity among learners in: their styles of learning; their level of comfort with learning; and their willingness to engage in learning experiences that may take several different forms. One enterprise, with a wide variety of employees at different education and training levels, and different ethnic backgrounds, specifically alluded to the need to be conscious of the diversity among their workers as learners. Other enterprises could not see their way clear to take that

issue on board because of resource implications, while others saw little need, since the training needs in their enterprise were perceived as fairly homogeneous.

What was seen as too difficult

The characteristics of workplace preparedness generally seen as too difficult are congruent with those identified as too difficult in the preparation of learners. Although enterprises sampled had developed training policies and structures at differing levels of formality, these policies generally did not include the development of self-direction among workers. The policies were generally framed in terms of enabling and enacting the training needs identified by the organisation, rather than fostering self-identification of training needs. At the same time, there were *practices* that involved self-identification, sometimes as a deliberate policy, and at other times as a way of capturing needs that may not have been identified by supervisors. Enterprises generally felt that they simply did not have the resources and the time to devote to negotiation of individual learning contracts, and the necessary monitoring of their achievement. They also expressed reservations about the capability of their line supervisory staff in terms of the human resource management processes that included self-identification of training needs, or the development of formal mutually agreed training plans. One organisation reported that they were not unhappy for employees to identify apparently irrelevant training desires and, from time to time, they agreed to those wishes with an expectation that this would encourage and motivate training in more relevant skills areas. However, the large majority of enterprises expressed caution that a process that provided for self-identification would lead to the problem of employees developing learning expectations that the enterprise would not wish to support.

Likewise, enterprises generally did not see as feasible, nor even particularly necessary, the need to develop the learning skills of their workers. There was wide recognition of the need for training, and the need to facilitate training and training outcomes, but the processes of achieving this through development of a self-directedness in learning were not seen as feasible. The major reasons for that view again appeared to relate to resources, with a general consideration that it would be time-consuming for already pressed trainers, and for supervisors who had largely production imperatives to meet. The processes of assisting people towards self-directedness, and the monitoring of that progress to a point where the enterprise could be confident that such skills were being deployed in an efficient way, were seen as too difficult, and the gains as too nebulous.

In summary, the development of individualised approaches to training-plan development was generally not seen as feasible because of resource intensity. At the same time, the development of individuals as learners was also not generally seen as feasible for many of the same reasons, and also because the value to the enterprise was not recognised as being worth the effort in terms of the business outcomes being sought. Tables 5 to 9 provide a summarised form of the findings on workplace preparation strategies, derived from the interviews with training personnel in the twelve enterprises sampled.

Table 5: Summary of feasibility of strategies identified for the development of training policies

Strategy*	Feasibility
Considered feasible by all	
A statement of the purposes for training within the enterprise, and the value placed on it	Feasible by all
A statement of the nature of assessment, and by whom those assessments are to be made	Feasible
A statement of recognition that values learners as learners and as workers, and with legitimate need to ask questions, seek guidance and demonstration, and to be provided with opportunities to experiment, trial, and practice	Generally feasible
A statement that learners are a legitimate part of the enterprise workforce and are expected to participate in the workplace community, and to accept the values and directions of the enterprise	Feasible
A statement of what learners can expect in the provision of learning resources, and to where they may withdraw to use these resources	Feasible
A recognition that self-directed learning requires the regular negotiation of learning goals between the learner and the trainer, and the need to jointly review these goals and discuss progress	Feasible
An expectation that learners will work within the community of practice as a member of a team, but will also progressively develop the skills to take responsibility for their own work and learning	Feasible
A statement that training plans, activities and achievements will be adequately recorded	Feasible
Qualified feasibility	
A statement of the form of knowledge that the enterprise wishes learners to construct, including whether skilled performance only is to be pursued, or whether skilled performance is expected to be accompanied by conceptual understanding	Not generally feasible in a broad and formal way
Details of the training structures in the enterprise, and the roles of each of the personnel involved with training, and the role of any external training provider	Feasible, but affected by size and formality
A recognition that diversity of experience is necessary and will be provided through different work experiences in the enterprise, or provided externally by training providers	Feasible, affected by level, size, and training philosophy
A recognition that time needs to be made available within the production schedule for meetings, discussion, practice etc. and that time is also required for the study of flexible learning materials or attendance at classes	Generally infeasible unless in EA

* Strategies identified by Smith (2000b)

Table 6: Summary of feasibility of strategies identified for the development of training structures

Strategy*	Feasibility
Considered feasible, but affected by size and formality of enterprise	
Identification of training personnel and specific trainers	Affected by size
Development of roles for training personnel that include responsibility for:	
▪ training plan development	Feasible
▪ training design and implementation	Feasible
▪ goal negotiation with learners and monitoring of learning	Feasible, affected by level
▪ assessment of skills	Feasible
▪ enabling access to learning materials, physical resources and more expert personnel	Feasible
▪ enabling access to people and experiences as required	Feasible
▪ implementing training within the training and production policies of the enterprise	Feasible
▪ representing the learning needs of learners to management and other staff	Feasible
Development of documentation for training plans, recording of training activity and achievement	Feasible
Identifiable partnership arrangements with external training providers, and management of that relationship and the training provided	Feasible, but partnerships are normally seen more as a client relationship
Commitment to the professional development of trainers in the flexible delivery of training, and the development of self-directed learning among learners	Affected by size and formality

* Strategies identified by Smith (2000b)

Table 7: Preparing training personnel 1—feasibility of strategies identified to support development of the learning skills of workplace learners

Strategy*	Feasibility
Considered feasible by all	
Providing assistance to learners in developing and setting learning goals	Feasible, affected by level
Assisting in the identification and use of other resources, both human and material	Feasible
Developing an expectation among learners that it is legitimate to ask questions	Feasible
Qualified feasibility	
Providing assistance to learners in developing a learning plan and learning contract	Plan feasible by all; contract affected by level
Understanding of, and preparedness to negotiate learning contracts and outcomes with learners	Affected by level
Provision of assistance to learners in self-assessment of existing knowledge and skills	Limited feasibility
Provision to learners of positive feedback on self-directed learning skill development	Limited feasibility
Providing encouragement for reflection through discussion with both the trainer and with fellow workers	Limited feasibility
Assistance in self-evaluation of learning progress and outcomes	Limited feasibility
Provision of regular monitoring of the learning contract with learners, and negotiation of changes	Feasible, affected by level
Understanding the need to develop an equality with the learner in the learning partnership	Limited feasibility
Making use of the learning contract as the basis for communication between the learner and trainer on matters to do with learner learning	Affected by level
An understanding of learning preferences and learning strategies	Limited feasibility

* Strategies identified by Smith (2000b)

Table 8: Preparing training personnel 2—feasibility of strategies identified to support the development of skills and conceptual knowledge among learners

Strategy*	Feasibility
Considered feasible by all	
Ability to systematically identify authentic tasks available on-the-job to support learning	Feasible
Understanding of the processes required to provide for a diversity of problem-solving and learning experiences on-the-job	Feasible
Ability to identify learning tasks that cannot be undertaken at the workplace due to enterprise scope of work, and a process for negotiating for these learning tasks to be undertaken through a training provider, or through another enterprise	Feasible
Understanding of the processes for designing and supporting scaffolding and fading	Feasible
Capacity to provide demonstration and practice opportunities, and to facilitate trialling and experimentation	Feasible
Skills required to provide feedback as learning progresses, and at the conclusion of a learning contract	Ongoing feasibility in the absence of contracts
Commitment to provide an organised repository of learning resources, and methods to encourage use of those resources	Feasible
Commitment to a system of recording and recognising skill acquisition and development	Feasible

* Strategies identified by Smith (2000b)

Table 9: Preparing training personnel 3—feasibility of strategies identified to support the development among learners of participation in a community of practice

Strategy*	Feasibility
Considered feasible by all	
An understanding of workplace training policies that emphasise the value of training, the value of learners, and the need for shared experience	Feasible
An understanding of the respective roles of trainers and learners, as well as the contributions other workplace personnel can make through the willing sharing of their knowledge and experience	Feasible
A recognition and valuing of dual roles of learners as learners, and learners as workers	Feasible
Commitment to the provision of a spiral of responsibility that enables learners to move from peripheral to central participation as skills and knowledge increase	Feasible
Qualified feasibility	
An understanding of the need to 'champion' the needs of learners learning in the workplace	Limited feasibility

* Strategies identified by Smith (2000b)

Focus group results

Focus groups conducted with supervisors and trainers yielded a number of interesting observations that need to be interpreted together with the interview results.

The development of learner preparedness and self-directedness was an issue that interested supervisors and trainers who, in the main, had considered this and developed a set of views and, not uncommonly, had also devised some strategies for achievement. A view that came through strongly from a number of participants, and which represents a different strategy from those identified earlier, related to the sense of ownership that supervisors themselves felt towards the training and development of their own staff. The view was expressed on a number of occasions that effective supervisors had a responsibility for staff training as part of their collection of responsibilities relating to production, quality, and the care of people who worked for them. Where supervisors were seen by their staff to be taking an interest in staff development, and where the supervisor had taken ownership of that responsibility, there was evidence that staff also took a greater degree of ownership.

As one supervisor put it:

> *Where I take responsibility I can see staff also taking ownership of their own area. When I see that I am able to put them on to a higher level of learning and of work.*

The converse comment was also made by another supervisor in that same enterprise, who commented that, in his view, training that was too closely supervised on the job resulted in:

> *... the trainer doing all the extra bits and they [the staff] were never actually learning the job they were supposed to be there for.*

Supervisors felt that the part played by their own manager was important in achieving these outcomes, and that managers needed to be enthusiastic and show that they were supportive and willing for staff to learn through problem-solving and making some mistakes. They also needed to make time available within the production schedule to observe, discuss, and trial new skills.

The trialling of new skills was important to supervisors, who had developed a number of ways to implement scaffolding through assistance from others, and to remove that scaffolding as the skill developed. One supervisor of a laboratory had developed a routine for staff learning that involved the identification first of a set of relatively simple and routine laboratory tasks that needed to be carried out to support production and routine testing, and to set those tasks for a learner, with supervision from a more experienced operator. She then left it to the learner to identify when a level of comfort had been reached in executing those tasks, and at that point a more demanding set of tasks was provided. The placement of these learning sequences within the requirements of production had been achieved through a combination of mentoring on the job, and making use of slower production periods to practise learned skills.

A shop floor supervisor had developed a similar set of strategies whereby he had sequenced the tasks to be learned into identifiable sets, such that he provided scaffolding for the development of one skill set and then ensured its development through practice, before moving the learner on to the next skill set. That provision of scaffolding through supervision had ensured a dialogue between the supervisor and

the learner that enabled questioning and some discussion, and an assessment by both learner and supervisor of the readiness for the next learning sequence. By focussing on a limited skill set for each learning sequence, the supervisor had been able to focus the work of the learner to carry out production tasks in an ongoing way while learning proceeded.

Also evident among supervisors was their development of intentional communities of practice which they formed for each set of learning sequences. These communities of practice were sometimes quite static and formed the group with whom the learner most often interacted. A key to this more static form of community was an acknowledgement by supervisors and members of the community that they were all learners while on the job, but what was being learned at any given time varied between individual members. What had been set up within these static intentional communities was an expectation that each member of the group would require the time of another at some stage to assist with learning. A different form of intentional community of practice was more dynamic, and occurred where the group members would change at least to some degree as new learning sequences were encountered. Variables here were the size of the team under the supervisor, and the scope of its work. Static communities of practice tended to be more frequent in smaller groups, and where the work was more homogeneous. Dynamic communities were more noticeable where the group was larger and the scope of work wider. In that circumstance, the learner would be assisted by one set of workers while learning one task, but there would be some change when commencing the learning of a further set of tasks.

A further set of strategies was evident among supervisors in their placement of learning resources close to members of their work team and to learners. In one medium-sized plant a supervisor described a change in company policy and process when he said:

> *At the start we really had nothing. I mean, if we wanted to know something about a particular machine we would have to come up to the production office and grab the manufacturer's manual and read through that. We were encouraged to do that—if you want to go and read I'll run your machine for ten minutes while you go and have a read. Now we've got training manuals in every area, at all the work stations, so the encouragement to learn is really there.*

The location of learning materials to be readily accessible to employees was noted as an important strategy by a majority of supervisors. In their view that form of flexible delivery through materials access was important, and enabled on-the-job learning to be closely connected to practical skill development. Supervisors believed that, where a learner could access the learning materials and use them while operating the production equipment, or carrying out the required process, production was less interrupted, and that knowledge appropriated from the learning material could be put into immediate practice. Supervisors also commented that learners were more likely to identify knowledge and skill gaps and themselves seek the necessary knowledge where barriers to access were reduced. Comment was also made that learning that took people away from their jobs could be easily interrupted or even arrested by unavoidable and unexpected events such as somebody calling in sick. Where this occurred at the beginning of a shift, the need for production to be maintained often meant that planned off-the-job learning could not proceed that day. Although on-the-job learning could also be affected by those sorts of events, supervisors felt that it was

more robust and, where learning materials were available to support the on-the-job learning, the interruptions were much more manageable. Within this set of comments from focus group participants was an acknowledgement that people learn in different ways, with a broad categorisation of those who like to be shown, and those who like to read independently and practise independently. While those differences could be accommodated in the workplace, supervisors felt limited in their capacity to provide the most preferred form of learning on a reliable basis, since the needs of production and for attention to be given to competing demands was often a barrier.

A commonly expressed view among supervisors was that willingness to learn, and willingness of workers to take ownership of their learning, was strongly related to personality and individual motivations. For some supervisors that view was accompanied by strategies that encouraged and provided considerable assistance to learners who showed willingness. Less attention was paid to those who did not. 'A lot of it is the individual' was a statement heard often from supervisors. They felt they did not have the time, nor the motivation, to encourage people who appeared to be unwilling. Clearly, there was recognition from supervisors that the conditions for learning and its encouragement across the workplace were important, but individual attitudes did not sometimes capitalise on that.

Supervisors, like the management staff interviewed, did not see the development of learning strategies associated with enquiry, such as question-asking and articulation of knowledge learned, as their role. Learners were largely expected to already possess these skills or to develop them for themselves. The ability and willingness to pursue effective learning strategies was seen as related to the characteristics of individuals, and to be associated with motivation and willingness to learn. What they did see as motivating to workers and necessary as part of enterprise training policy was a system of rewards and career development as a consequence of skills development. More than anything else this was seen as the major motivator, and a key factor in workers taking ownership of their own learning. One supervisor from a medium-sized manufacturing plant expressed this in the focus group.

> *I think most of them do take ownership because if you've got someone starting at the beginning they want to know what is the next level—what's next, what's next, where do we go from here—I want to get to the next level.*

There was evidence among a number of supervisory staff that they had established quite sophisticated mechanisms for supporting flexible learning. They had developed methods to assist learners to develop goals in consultation with them, and to assess progress towards those goals on a regular basis. Part of the process identified by these supervisors was the development of a sense of ownership in learning through goal identification and self-assessment. It was important to ensure that learning resources were available to learners to access when they felt the need to do so. One small enterprise had developed a process of regular interaction with learners to, quite specifically, collectively identify specific learning goals, and how they might be achieved. The progress towards these goals, and the development of strategies to achieve them was a part of those regular meetings. The periodic involvement of learners with their supervisors, in a meeting focussing on their development, was also designed to develop a sense of ownership and self-direction among learners. Furthermore, the supervisor was able to learn how that person most preferred to learn, and subsequently facilitate it.

Some supervisors were also quite conscious of the fact that some learners liked to use text-based materials, while others preferred a much more 'hands-on' approach to learning, and that supervisors and trainers needed to accommodate those different styles. There was also comment from supervisors that indicated an understanding of the needs of new employees for dispositional knowledge (values and attitudes) in the workplace, as well as an understanding of their own work in the broader enterprise context; and a need for the propositional knowledge (knowledge about) and procedural learning necessary to competently carry out specific tasks. Those issues were addressed most commonly through induction programs, and in several cases, provision of some exposure to other parts of the organisation as part of an orientation to the enterprise.

The next chapter of this report will discuss these results in detail and develop recommendations for practices, which may be implemented in enterprises. In addition, the next chapter will identify recommendations for policy and for research.

Discussion and recommendations

This project was designed to inform a number of research questions, detailed in the chapter entitled 'Research questions and methods'. The discussion following is organised into each of those questions, and is designed to locate the results in the broader literature available. The enterprises selected as research sites for this investigation were known to have a commitment to training, and an identifiable accountability within the enterprise for a training management or co-ordination role. Each of the enterprises either had established a training policy, or was in the process of developing one, and already had a commitment to the flexible delivery of training as a part of its approach to training. While some enterprise experience with flexible delivery was a necessary part of this research design, it also represents a reason for being somewhat cautious in the interpretation of the results, since the enterprises in our sample are not necessarily representative of all enterprises.

Following the discussion of findings we provide a set of recommendations for the implementation of feasible strategies to support flexible learning in workplaces.

Discussion

Which of the set of learner development strategies identified in research to date can be feasibly implemented in operating workplaces?

The set of strategies identified for the development of self-directed learning among learners enabling them to proceed with their learning with less trainer-provided structure could be separated into three categories: strategies that were considered feasible by all enterprises interviewed; strategies which were considered feasible but with some qualification put on the feasibility; and strategies that were not considered feasible.

Those strategies considered generally feasible related to the locating of the learning within existing learner knowledge, and the contextualisation of that learning in the broader enterprise. In addition, enterprises considered it feasible to ensure that learners had access to other expert workers who could provide learning experiences through demonstration, discussion and guided practice. What comes through strongly here is a commitment on the part of enterprises to situated learning of authentic tasks (Billett 1996b) that can be meaningfully interpreted by workers as important in the achievement of enterprise goals. There was a clear sense among enterprises that new knowledge is built on existing knowledge, and that knowledge should connect the

tasks of the particular worker to the overall task set required by the enterprise. The situating of that learning within the tasks of the enterprise is reinforced through access to others who already possess that knowledge or skill, and who are capable of its performance within the workplace.

These findings are consistent with Billett's notion of the socio-cultural construction of knowledge in the workplace, and Young's (1993) suggestion that the choice of authentic tasks through which to construct new knowledge is a crucial component of effective instruction. The use of other expert workers provides that opportunity for authenticity of task within the context of the specific needs of the learner and the broader needs of the enterprise. The effective use of other experts also enables the successful implementation of goal-based learning as envisaged by Collins (1997) when he suggests that learning is achieved through a scaffolding approach to the learning of new tasks. It is reasonable to expect that the majority of expert workers would provide some form of scaffolding to novices as they engage with new learning. Our findings support that conclusion. Discussion with the expert other also enables the appropriation of meaning as suggested by Berryman (1991) and Collins (1991).

Enterprises were much more qualified in their views on the feasibility of those strategies which actually develop the learning strategies of learners in the workplace (Collins 1997; Smith 2000a). While there was a strong understanding of the ideas behind developing learning goals and contracts, and the notion of learner involvement in those developments, there was not any universal feeling that those strategies were feasible within operating workplaces. Largely, views of the feasibility of these learner involvements in setting learning directions were associated with a feeling that there is simply not time to do this. Increased learner involvement in developing learning goals and strategies across the enterprise would require a distribution of that work to supervisors at all levels. Coupled with the view that supervisors would generally not have the time to engage in these sorts of discussions and associated planning functions with their staff was a feeling that many supervisors were simply not well-equipped in terms of knowledge to do it. Part of the issue here may be that enterprise managements see these processes as in need of control, and driven through a vertical network model (Poell et al. 2000). Although Sofo (1999) has made a clear link between effective modern workplaces and the empowerment of staff to have some ownership of their learning objectives and consequent outcomes (Mocker & Spear 1982), there may not be ready recognition that these processes can be liberalising and, with some practice among supervisors and workers, may result in less management input and time, and more learner input and control.

However, there was a view that the development of learning goals and contracts was feasible at higher levels in enterprises, typically among professional and managerial staff, where a number of enterprises had already established these processes, or equivalent ones. Also more likely to be considered feasible at these higher levels were regular discussions on progress towards expected learning outcomes, the development of a structured pathway to achieve the outcomes, and adjustment to expected learning on the basis of experience as it progressed. These features of learning management were generally considered feasible, and even desirable, within a performance review process, where new learning became a part of the expectations on an employee over a period of time. The cyclical model proposed by Sadler-Smith et al. (2000) for operation in small firms is identified as feasible among higher-level employees in larger enterprises as well.

There was also a view that the withdrawal of a higher-level worker from the production process to pursue learning was feasible, and in some enterprises, even expected. At lower levels of employment this form of withdrawal was largely seen as feasible where it formed part of an enterprise agreement. The observations made both by Whittaker (1995) and Evans (2001) are largely borne out in the current research, that there is a clear tension between the learning needs of enterprises and their production imperatives.

Generally considered not feasible was the provision of assistance to employees in developing the skills of structured observation and question-asking. These skills are important for learners to develop, but they were generally expected to either already have them, or to develop them for themselves. The notion that these skills are already in place is at odds with the views of Collins and his associates in relation to cognitive apprenticeship, where they argue strongly for the systematic development of these skills to support situated learning. The paradox identified by several researchers (Harris et al. 1998; Whittaker 1995) that learners should be challenging current practice at the same time as accepting their supervisors' answers to their questions would indicate value in developing among workplace learners the skills of enquiry as well as the skills of developing meaning from the responses to their enquiries. The value in workplace learners acquiring the skills of self-directed learning through the development of the skills of enquiry have been observed by Knowles as long ago as 1975. Knowles (1975) has clearly argued that learners who are expected to engage in some form of self-directed learning, such as through flexible delivery in workplaces, are unlikely to experience success without assistance in the skills of self-directed enquiry. Although largely considered not feasible both by managers and supervisors, or not even considered at all, the development of such skills would appear to be worthy of consideration by firms wishing to develop their human capital through flexible delivery.

The strategies identified to support the development of skills and conceptual knowledge were more commonly accepted as feasible without qualification. All workplaces saw as feasible, and desirable, the various strategies associated with providing opportunity for engagement in demonstrations and practice, provision of a diversity of relevant experience, provision of scaffolding and its gradual withdrawal as skills developed, and the integration of on- and off-the-job learning. Providing these experiences in a variety of ways to support individual differences in learning styles through provision of a variety of learning materials and experiences was accepted as feasible, but was affected by the philosophy of the enterprise. Enterprises saw these strategies as feasible in the context suggested by Sadler-Smith (1996) in his 'non-adaptive' model, in that the provision of several different ways through which individuals could access learning, was accepted. However, there was no evidence that Sadler-Smith's 'adaptive' model was considered feasible, where instruction was uniquely geared to the needs of a given individual. That form of adaptation would be time-consuming, potentially expensive, and the evidence for its efficacy is not strong (for example, Misko 1994). The provision of different forms of material and opportunity for experience, from which a learner could make a choice, was considered feasible. As Sadler-Smith, Down and Lean (2000), Smith (2001b) and Stanek (2001) have argued, the forms of training methods and learning resources available in a workplace form the collective suite of options necessary for flexible approaches to modern workplace learning. While some enterprises saw that expert others, technical manuals and learning resources are sufficient to enable the non-adaptive model to be

enacted, other enterprises had made it a deliberate strategy to put together a considered range of resources and learning opportunities.

The strategies identified for the development of skills in a community of practice were considered feasible by all where they involved interaction between learners and other workers, trainers and supervisors. These are the usual forms of worker interaction in any workplace and require no particular effort on the part of enterprises. However, beyond that, enterprises saw as very feasible the encouragement of those relationships in a learning context which would enable the development of required skills and knowledge. Although research by Brooker and Butler (1997), Harris et al. (1998) and Unwin and Wellington (1995) showed that the involvement of workers in communities of practice was largely unstructured and unplanned, it appears that among the enterprises in our sample there is an acceptance that strategies can be put in place to achieve this in a more systematic way.

Where the invocation of a community of practice involved assisting learners to develop their own learning objectives, and the pursuit of those objectives through organised discussion and articulation, there was only a qualified view of feasibility. Largely, the qualification involved a view that these forms of 'time-out' discussions were feasible only in a context of a discussion about production tasks, rather than in a context of discussions about knowledge acquisition. Calder and McCollum (1998) observed that engagement in flexible learning in a work environment can involve undertaking some activities that are not clearly related to production and are seen as 'time-out' is supported by our findings here. The same tension between the objectives of production and of learning, alluded to above, is also evident here. Particularly interesting in the current research, however, was the identification among managers interviewed and supervisors in the focus groups, of the implementation strategy associated with the development of intentional communities of practice among the people who worked with them. Working within the same context as their staff, and faced with the tasks of developing skills and knowledge, supervisors had not only recognised the value of the community of practice that was naturally present, but they had deployed it intentionally to develop particular skill sets or particular individuals and groups. The power of the community of practice as an intentional device was noted by McDermott (1999), and supervisors had developed this notion in a quite sophisticated way, such that they used both static communities and dynamic communities. It appeared through discussion with these supervisors that developing intentional communities was not a difficult strategy to employ, and tended to form a fairly natural extension of the community already there.

Taken together, our results on the feasibility of different learner development strategies indicate there is something of a paradox between the strategies identified as feasible for higher-level workers and those at lower levels. Several writers (for example, Harris et al. 1998; Brooker & Butler 1997) have commented on the need for structure to be in place for the effective training of learners in the workplace. Other writers (for example, Calder & McCollum 1998; Smith 2000a) have particularly pointed to the need for these structures to be in place in an environment of flexible learning, particularly at lower levels of enterprises. The importance of these structures was also identified by Sadler-Smith, Down and Lean (2000) in their comparative study of different delivery methods in British firms. The latter particularly drew attention to the favouring of flexible learning methods by managers and others in positions of greater privilege within organisations.

Our data indicate that the feasibility of strategies identified to develop learner preparedness is seen to be greatest at the higher levels of the organisation where, arguably, they are possibly least required. It would be fairly easy to interpret that finding as being entirely associated with the value placed by the enterprise on the complexity of the work that different levels undertake and the relative values of those contributions to the achievement of enterprise goals. Our research was not designed to provide insight into those possibilities, but the research does show that the feasibility of these strategies is related to time available and to the larger number of these lower levels of employee. A consequence of these larger numbers is their organisation into groups under the supervision of people who are, in turn, at varying levels within the enterprises, and who have varying skill sets. The development of learners and the monitoring of learner and knowledge development are not skills widely perceived by managers interviewed to be held by supervisory staff.

However, the focus group discussions indicate that there are skills and understandings among supervisors that may not be readily recognised by more senior people in the enterprises. Perhaps there is scope here for more dialogue between management and supervisors on what implementation strategies are employed by supervisors, and how they may be used and supported more broadly within enterprise policy and practice. An issue here may be a more formal view of enterprise training held by management staff, and a less formal view held by supervisors on the ground who work together with their staff and their learners every day. For example, the development of communities of practice and opportunities for forms of mentoring and discussion appeared to be fairly common among supervisors in the focus groups. There is considerable literature on the value of non-formal learning in workplaces, and it is possible that supervisors see, experience, and invoke more informal learning processes than do their managers.

A further valuable framework in which to view these results is the learning-network theory developed by Poell et al. (2000), drawing on earlier work by Van der Krogt (1998). Our observation with regard to levels of employee indicate that there are two predominant forms of network operating in the enterprises we researched. Our comments here are somewhat guarded, since in the small enterprises we visited there may be a somewhat different story, which we will elaborate further later in this discussion. However, in the larger enterprises it appears as if a liberal–horizontal network operates among higher-level employees, while at lower levels the networks are characterised by being largely vertical, but with some characteristics of horizontal as well. The liberal–horizontal network operating at higher levels enables considerable freedom among employees to identify, determine and pursue their own learning goals, but these are connected to the horizontal network in that they are pursued in contexts of teamwork and problem-solving, but with the learning to be pursued clearly focussed on organisational need. The vertical network operating at lower levels is characterised by its linear planning with management determining learning goals and activities to be pursued. In this context learning is seen to be a tool of effective enterprise management (Sofo 1999), and part of the armoury brought to bear on issues of productivity, cost control and quality (Maglen, Hopkins & Burke 2001). At the same time, there are signs of horizontal networks where the learning is contextualised within the needs of a work group, an approach to problem-solving, and workplace learning proceeding alongside, and as part of, the work that is being undertaken.

Which of the set of workplace support strategies identified in research to date can be feasibly implemented in operating workplaces?

The link between training effectiveness and human resource strategies (Maglen, Hopkins & Burke 2001) had been made by the enterprises we visited. While all enterprises saw training policies, processes and structures as feasible and desirable as part of their business strategy, there was considerable variation in the formality of these, and the range and depth of support provided. There was strong evidence of a relationship between the size of an organisation and the formality of its training plans and training processes, as might be expected (Sadler-Smith & Smith 2001; Curran et al. 1996; Robertson 1996). The larger organisations tended to be more formal. There was also some evidence, but by no means a strong relationship, that enterprises with geographically distributed workforces had more formal training policies, processes, and structures.

Strategies that were seen by all to be feasible were those associated with the development and articulation of training policies that indicated the value placed on training by the enterprise; the forms of training that could be expected; details of assessment policies; a recognition of dialogue between learners and trainers on learning goals and their achievement; an expectation that learning would make use of the community of practice available in the enterprise; and a statement that training plans, activities and achievements would be recorded. There was a qualified view of the feasibility of providing statements of the sorts of knowledge to be pursued (for example, skills and/or conceptual) and time availability within the production schedule for non-formal or flexible learning. Whether or not enterprises considered as feasible the details of training structures was strongly related to size and formality, with some enterprises seeing the provision of considerable detail as feasible and desirable, and small enterprises tending to have a more informal set of arrangements (Sadler-Smith et al. 2000).

The strategies viewed as generally feasible were those which enabled both the learner and the enterprise to view training as an important and legitimate activity to be pursued (Unwin & Wellington 1995; Harris & Volet 1996), and this ensured that learners were valued. Furthermore, the policy components viewed as feasible enabled learners to have some idea about what they may expect in terms of support, and what they may expect as a commitment from their trainers. The recognition of these strategies as feasible provides encouragement that enterprises in our sample recognise the importance placed on the sense of value observed by Lave and Wenger (1991) and Fuller (1996). In addition, the identification of training as an important activity was associated with a view that ownership of enterprise goals by all employees in the enterprise (Stanek 2001) could be facilitated through training and human resource development.

The qualified support for the feasibility of providing a statement on the forms of knowledge to be pursued is understandable. The qualification placed on that notion by enterprises was not whether they saw it as valuable, but rather on whether they felt it was feasible as a general statement across the enterprise in its training policy articulation. They felt that feasibility was related to more specific cases, where it would be possible and worthwhile for the strategy to be employed with some workers

in some learning contexts, but neither necessary nor achievable across all. Apart from the complexities associated with articulating expected forms of knowledge across an enterprise, there was also the view expressed in the focus groups that individual willingness and motivation had a major part to play in the pursuit of different forms of knowledge. There was also some evidence again of the tension between production and learning imperatives (Calder & McCollum 1998; Evans 2001) in the qualifications placed on the feasibility of stating in a training policy the access to time-out for learning in flexible delivery environments or even formal classes. That same reticence was evident in the qualified feasibility assigned to the notion of articulating, in a training policy, access to a diversity of experience.

The strategies identified for the development of training structures were largely seen as feasible. More specific strategies for the development of training personnel were also seen as feasible by all, although different interpretations need to be placed on that finding. First, in larger enterprises with an identifiable training structure and personnel accountable for training, there was acceptance as feasible of the skill development necessary for training plan development, implementation, assessment, learning resource and personnel access, and implementation of training policy. There was also a view that the development of trainers' roles to include championing of trainers to management staff and other workers was feasible and desirable, in a spirit of ensuring that a value was placed on training and on learners. Likewise, the identification of external training possibilities and training partnerships were also seen as feasible strategies. Only limited feasibility was identified among those strategies that provide for the development in trainers of the skills required to assist learners to become more self-directed. These results indicate a view of training structures and roles characterised by the vertical learning network orientation.

A further interpretation that needs to be made here is that, in smaller enterprises, there was no identifiable trainer role, and training tended to be organised by management, and exercised through external providers (Sadler-Smith et al. 2000) and through the use of expert others in the workplace, in a largely mentoring role. The arrangements and the structures were, accordingly, relatively informal, and feasibility needs to be interpreted within that informal and multi-tasking environment. Within smaller enterprises, the performance of the learner is more evident to the 'trainer' on a continuing basis, such that the sense of alienation observed by Unwin and Wellington (1995) and Fuller (1996) is less in evidence. Smith (2000a), writing in the context of small hairdressing salons, made the point that it is difficult to ignore a learner who works alongside the mentor, and difficult not to have an ongoing training relationship. Stanek (2001) has pointed to the value of one-on-one mentoring, and reviews evidence (Stott & Sweeney 1999) that mentoring processes are much more effective where the mentor is also trained. Within the small restaurant environment visited in the present study, there was a commitment to quality of service that ensured training was an imperative (see also Smith 2000a), and a strong commitment on the part of management to their own learning and mentoring skills, associated with a strong commitment to employee training (Sadler-Smith et al. 2000). The enterprise had developed a clear philosophy of the value of training, but had not developed a formal structure, as Field (1997) and Robertson (1996) observed as typical of smaller enterprises.

Finally, the development of effective training personnel was generally regarded as feasible and desirable. However, there was not a strong view that trainers who were

adept at developing workers ability to learn (learning to learn skills) or who facilitated the development of self-directed learners, were either necessary or feasible to provide. That finding is at odds with other work which suggests that the skills of learning, and knowing how to learn, are crucial for effective workplace learning (Knowles 1975), particularly as it is provided through situated and flexible learning paradigms. For example, in Britain, the Institute of Personnel Development recently produced a consultative document (IPD 2000) which strongly urged the strengthening of workplace learning through learners who understand how to learn. That need for understanding how to learn and to develop skills of self-directed learning for effective flexible learning has been noted by several writers (Boote 1998; Brew & Wright 1990; Evans 2000; Evans & Smith 1999).

Can features of enterprises and their culture be linked to the feasible implementation of strategies?

The feature of enterprise size has already been discussed at some length in this section of the report. Size of enterprise had several effects. First, larger enterprises tended to be more formal, and to have more differentiated roles and more clearly defined levels. The more clearly identifiable roles included personnel who had accountability for training, normally embedded within a broader function of human resources. In turn, that size effect yielded more formal training policies and procedures, and evidence that at least two forms of learning network (Poell et al. 2000) were identifiable. Smaller organisations were characterised by higher levels of informality both in arrangements for training and in relationships between people.

An interesting relationship appears to exist between the features identified with size and those identified with structure. In the franchised organisation that formed part of our study, the evidence was that the training strategies considered to be feasible for the owner–managers of the small businesses were similar to those associated with the higher levels of employee in the larger enterprises we visited. There was more scope for owner–managers to frame their own learning requirements than there was for their employees. A considerable amount of flexible learning was evident already, or considered very feasible, in the training arrangements for owner–managers, within a framework of the expectation of service and product standard required by the franchisor. At the level of staff in the small businesses, the strategies considered feasible mirrored those of the lower-level employees in the larger enterprises we visited.

Geographic distribution of the enterprise and its workforce was a variable that impacted most particularly on the provision of learning resources, their accessibility, and the skills to use them. Where the workforce was distributed over a large area, enterprises were much more likely to see as feasible the strategies associated with the development or acquisition of learning resources and to make use of mentor staff who assisted learners to connect the resource-based learning with workplace practice. In those enterprises, there was a stronger characterisation of flexible delivery through its distance education forms, consistent with the observations made by Sadler-Smith, Down and Lean (2000) and Smith (2001b).

Partnership arrangements with training providers were sometimes associated with enterprises which were able to offer the training provider access to valuable workplace experience for other students of the provider. That was evident where one

enterprise had been able to develop a partnership with a university, such that the university provided at-work training for staff, but was also able to place its students in the workplace for work experience components of university courses. Another form of that same sort of arrangement was evident between one enterprise and a TAFE institute. For other enterprises, training partnerships were not in evidence, with the common practice being for relationships with training providers to be one of supplier–customer, with the enterprise receiving training support from providers on a project-by-project basis. Where partnerships were formed, there was no expectation that all enterprise training could be provided through the one provider.

Beyond enterprise characteristics such as size and geographic distribution, there are three issues that appear to influence enterprise perceptions of the feasibility of implementing various strategies to improve flexible delivery in the workplace. First, the enterprise's notion of the place of training as a vehicle for organisational development appears related. Enterprises viewing training as an essential element of organisational development generally perceived more strategies as feasible than did enterprises that saw training as more peripheral. Second, where training formed part of an enterprise agreement, more strategies appeared to be seen as feasible. Third, hazardous work and safety issues had some impact on how feasible some strategies were viewed. Where the work of the enterprise involved hazardous processes there was evidence of a preference for strategies that formed a vertical learning network, and which closely prescribed worker learning outcomes as competencies, the learning activities, and the assessment processes and standards.

The relationship between employee reward structures and feasibility was observed as important. There was evidence for Donaghy's (1999) observation that the flexible delivery of training is becoming increasingly common in enterprise agreements. Where enterprise agreements had included training in their scope, enterprises were more likely to see as feasible the provision of time-out from production for structured and unstructured training, and for the support of that training through discussion and practice of skills learned. The legitimisation of time-out for training provided, at least within the formal training structures, some relief from the tension between learning and production needs. The availability of that time to use independent learning resources also assisted in reducing the feeling identified by Calder and McCollum (1998) that flexible learning through resources was simply a way to remove oneself from production responsibilities. Similarly, the link made at higher levels between individual performance agreements and training also served to bring workplace learning through flexible delivery into the expected set of development strategies. The link between remuneration and training was also regarded as important by supervisors in the focus groups, who expressed the view that a willingness to learn was enhanced if tangible reward was likely to result, either directly or indirectly. Apart from that remuneration–learning achievement link serving to show very clearly that the enterprise values training, as Noe (1998) has suggested in the context of mentoring systems, there is only limited effectiveness when there are no career or vocational benefits perceived by the learner.

Suggested directions for implementation

Learner development

Throughout this report we have drawn attention both to researchers and to practitioners who have made the point that the skills of effective learning are becoming increasingly important in the complex workplaces of today. Along with the complexity of workplaces is the attendant need for the development of complex knowledge and a continual updating of that knowledge. Although vertically organised training management systems must continue to have an important place in ensuring that enterprise training is focussed on enterprise needs, there is argument for the liberalisation of that vertical organisation if employees are to develop as effective and self-directed learners. In addition, research literature we have reviewed here continually argues that the effectiveness of flexible delivery is enhanced where workers have self-directed learning skills that enable them to identify learning needs, to pursue them, and to monitor their own progress towards those goals. The more liberal networks can also make a better use of the community of practice that surrounds learners in enterprises.

The research has indicated that, while these more liberal mechanisms can feasibly operate at higher levels of enterprises, they are not seen to be so feasible at lower levels. The major barriers we identified for providing those more liberal networks at lower levels appear to be associated with the time that would be consumed by personnel who need to have a production focus and the skills of supervisors at those levels to effectively implement and monitor such arrangements. Interestingly, it was not identified in our research that the learners themselves are not capable of effective learning within liberal networks, and there was evidence that these already exist in an informal context.

In identifying future directions for the feasible development of learner skills within enterprises, therefore, it is necessary to take particular account of the time constraints, the competition between learning and production, and the skills of supervisors who may have responsibility for implementing and monitoring learning in the workplace. Moreover, it would be naïve to expect that there is a ready recognition within enterprises that these skills are even worth developing. Dealing with that expected scepticism is a reality that can't be avoided.

Acknowledgement is made here to the more general individual and organisational development model proposed by Sadler-Smith, Down and Lean (2000, p.488). This model provides some assistance in framing a set of strategies applicable in flexible delivery environments through its ability to take into account both enterprise needs and individual learning needs, and combine these through a negotiation and prioritisation process to yield a set of agreed learning activities and outcomes. The model has assisted in systematising a set of recommendations to support the 'learner development space' of the strategic model framework we have suggested in figure 2 (see p.36) earlier in this report. To provide a framework for the determination of agreed learning goals, the activities to support that learning, and the monitoring of progress towards them, we recommend the development of a proforma that can be easily filled in by learners themselves, modified and agreed in consultation with a supervisor or trainer, and easily monitored by each.

The data collected in the current research have enabled us to use the theoretical models proposed in the literature to develop specific suggestions for practice, based on what was shown to be feasible at the enterprise level. Indeed, these recommended practices, or equivalents, were observed to be already in place in some of the enterprises we visited. Our specific suggestions to provide for greater ownership among employees of their own learning, the development of learner skills for learning, and for the development of required skills and knowledge are:

- We recommended the development of a paper or electronic proforma that requires employees to provide answers to the following questions:
  - What is my work over the next (say) six months?
    What do I need to learn to be able to do that work?
  - What activities will I use to learn?
    Who do I need help from?
  - What do I need to have demonstrated to me?
    What do I need to practise?
  - What written or video material do I need to help me?
    How will I know that I am learning?
- We next recommend that the proforma is reviewed by the supervisor or trainer and discussed briefly with the employee, and modified where necessary. Identification of any barriers to the achievement of the plan would take place at that time. In addition, supervisors or trainers would then establish the required relationships, and assist with the accessing of other resources.
- We recommended that the proforma also provides capacity for the employee to furnish a brief statement of achievement against each learning objective on a periodic basis, and advise of any barriers in the way of achievement, and any adjustments to the plan that are required.
- We also recommend that each learner establish the network of people with whom they wish to learn, including co-workers, expert others, supervisors or trainers.
- We also recommend that external training providers may be effectively used to set up and maintain such a system. Within that recommendation we also suggest there may be business opportunities for training providers in the provision of that form of support to enterprises and individuals.

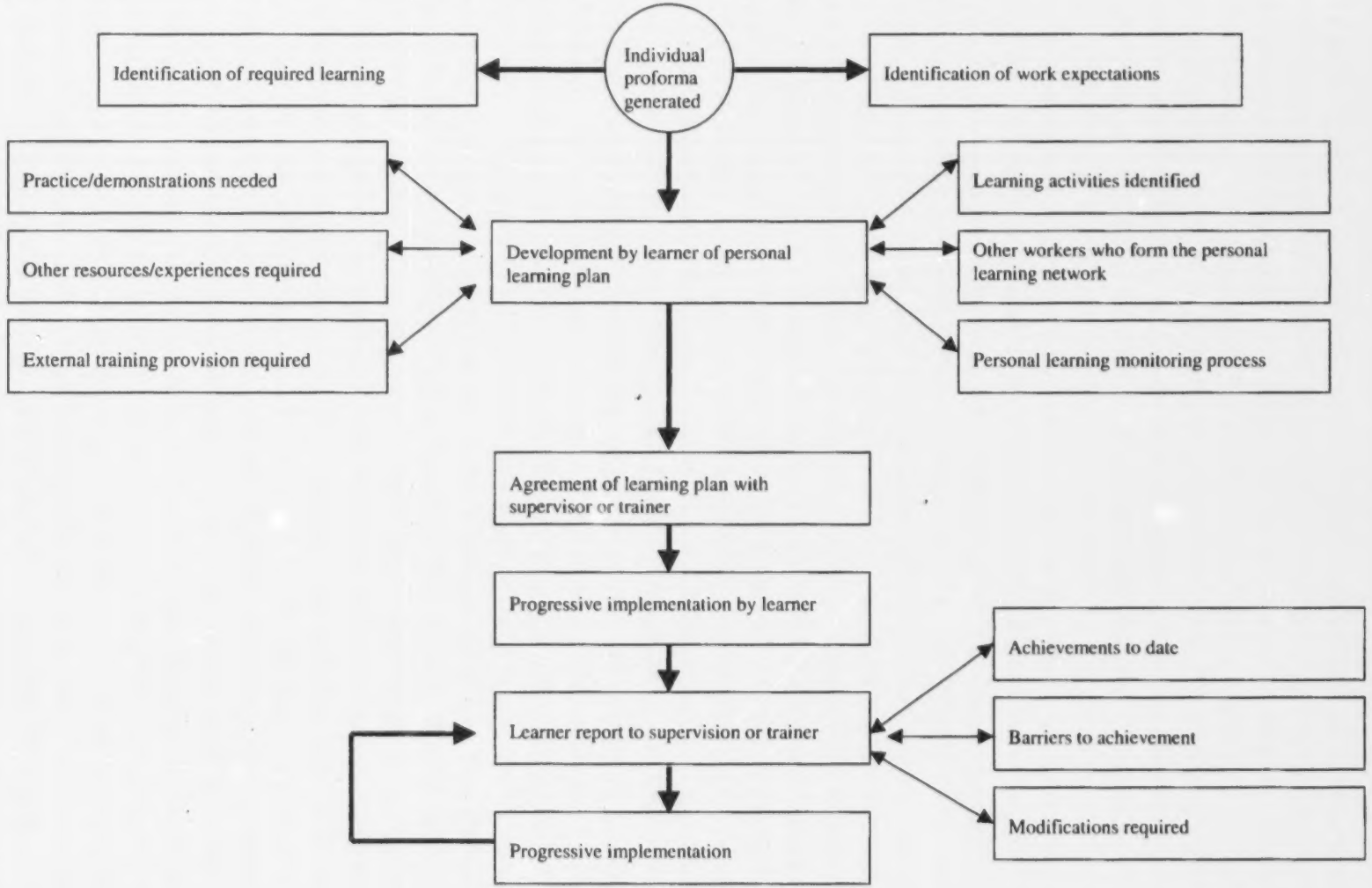
These suggestions are shown in diagram form as figure 3 (see p.74).

These recommendations provide the following advantages:

- Learners take responsibility for their own learning.
- A more liberal learning network is developed.
- The learning sequences are situated in the workplace and make systematic use of the existing community of practice.
- Supervisors are not in a position of needing to identify the learning needs of each individual, nor developing the required learning activities.
- Supervisor time is conserved as much as is possible.

The suggested process can sit comfortably alongside other more vertically driven training processes. For example, where remuneration is directly related to the achievement of identified competencies, or in other situations where learning outcomes are necessarily prescribed by management for reasons, such as safety, due diligence etc., the self-identification of all learning needs and their prosecution may be neither desirable nor feasible. As suggested by Poell et al. (2000), there is no

Figure 3: Diagrammatic representation of suggested enterprise-based learner-centred development system


Individual proforma generated
Identification of required learning
Identification of work expectations
Practice/demonstrations needed
Other resources/experiences required
External training provision required
Development by learner of personal learning plan
Learning activities identified
Other workers who form the personal learning network
Personal learning monitoring process
Agreement of learning plan with supervisor or trainer
Progressive implementation by learner
Learner report to supervision or trainer
Achievements to date
Barriers to achievement
Modifications required
Progressive implementation

necessity for any given individual to operate only within one form of learning network, nor within only one set of learning expectations. The process we suggest here can be easily implemented in a context where other learning needs and their achievement are determined through other, probably more tightly controlled, methods. However, introduction of the sequence we recommend, or one like it, has the advantage of developing in learners the ownership, implementation, and monitoring of their own learning that assists in achieving self-direction. Experience with those activities will provide enhancement to learning that may need to occur in the more tightly controlled sequences discussed above.

Workplace development

In the areas of training policy, structures and personnel, our research has indicated that a large number of identified strategies are seen as feasible by the enterprises in our sample. Implementation of these feasible strategies will vary considerably between enterprises on the basis of their size, the structure of the training function, the resources available, the positioning of training within the enterprise, and whether training personnel are dedicated to training matters, or engage with training as but one of their functions. Moreover, the business strategies pursued by each enterprise will be somewhat different, such that their orientation towards human resource development strategies will also be different, as suggested by Huang (2001). Within the strategic model (see figure 2, p.36) we suggested as a framework for strategy development to support flexible delivery, the recommendations we make below form the 'workplace development space'. These suggestions can be implemented in all enterprises pursuing flexible delivery. There will be variations in implementation due to enterprise characteristics of the sort discussed above

In regard to training policy, we recommend that the following strategies are worthy of consideration for implementation. Training policies, it is recommended, should:

- Be written in language that is accessible and understood throughout the enterprise, and be available to all personnel in the enterprise.
- Contain a statement indicating the value placed on learning and its place in the achievement of enterprise goals.
- Indicate that flexible delivery is a form of training pursued by the enterprise and that, in supporting flexible delivery:
  - learners will develop skills at least partially through self-direction
  - learners will seek to learn in their work situations and as part of their everyday production activities
  - learning will take place within the production schedule and is legitimate
  - seeking assistance from others to learn is legitimate and encouraged
  - learners are expected to identify at least some of their own learning needs and pursue those needs
  - learners are expected to monitor their own progress towards meeting those needs
  - demonstration, practice, discussion and assistance from co-workers and expert others is expected, encouraged, and legitimate
  - learners should use a variety of learning resources to achieve identified needs
- All employees are expected to learn within a network of others, including co-workers, more expert others, trainers and supervisors.

- Learners are expected to participate in the system developed to identify learning goals, learning activities, learning monitoring, and learning achievement.
- Learning goals, activities and achievements will be formally recorded.
- Personnel to assist with learning development are identifiable within the enterprise and can be approached for assistance.
- Learning may be for skills development, for understanding, for behaviour and attitude development.
- The enterprise will also conduct very formal learning sequences of prescribed knowledge for purposes of defined competency development, safety etc. These more formal and directed processes will co-exist with processes providing for more learner control over learning.
- Training policies should encourage a diversity of experience within the production schedule and personnel available.

For training structures, we recommend the following strategies:

- identification of personnel with roles, such as:
  - training management
    resource identification
  - learning goal development and progress to achievement
    direct learning assistance
  - learning network facilitation
    identification of external provision opportunities
- clear identification of assessment processes and consequences
- inclusion of the role of external training partnerships or occasional training supply from external providers

The strategies we identified for the preparation of training personnel were largely seen by the enterprises as feasible. However, although each individual strategy may have been seen as generally feasible, taken together they may be difficult to implement within available resources. Certificate IV in Assessment and Workplace Training was viewed very favourably by a number of our enterprises, along with a range of other accredited programs. In addition, enterprises vary in the range of personnel they make available for training support, and the roles that those people play are also varied. We suggest however, that across the collection of people who have a commitment to training support in an enterprise, the following characteristics could be profitably developed:

- an understanding of the value of learning both for organisational and for individual development
- an understanding of the value of developing self-directed learning among employees, and an understanding of how such development may be facilitated
- an understanding of learning goal development to serve organisational and individual needs
- ability to develop systems of learning development and management that provide for both vertical organisation of learning, and learning within liberal networks, and the co-existence of both forms of learning
- an understanding of the importance of direct observation and practice, as well as learning from other people in the workplace
- an understanding of the processes required to develop among learners an ability to learn from a variety of sources and media, and the selection from among a set of provided options

- an understanding of individual differences in learning preferences and styles, and how enterprise provision can be organised to accomodate difference
- authentic task selection for learning.
- the role of problem-solving and reflection on solutions in workplace learning
- ability to identify and source a range of learning experiences and resources
- ability to identify learning partnership opportunities and effectively implement them
- an understanding of the tension between learning and production, and the skills to resolve those tensions

A framework for the recommendations

In making our recommendations we are conscious of the fact that they form a mosaic, rather than a checklist of things that might be done. Interpreting the mosaic of recommendations through the framework (see figure 2, p.36) developed earlier in this report may be useful here.

In that suggested model we provided opportunity for the development of learners in the 'learner development space', and opportunity for 'workplace development' strategies to be placed in the space of that same name. The 'strategy space' formed a convergence of those two sets of strategies to provide for a coherent and closely associated set of strategies that may be pursued by an enterprise wishing to enhance the effectiveness of its flexible delivery of training. To recall briefly here, it was argued that, on the basis of previous research that there are major challenges for flexible delivery since the evidence is that learners are not typically well-equipped for it. Moreover, other research reviewed indicated that enterprises were not always sure how to support flexible learning within the range of competing requirements of workplaces.

Figure 4 represents our attempt, within the limitations of the printed page, to put forward a coherent framework for our research findings and recommendations.

Figure 4: Framework for interpretation and implementation of feasible strategies to support flexible delivery in the workplace

Learner development space

Strategies suggested include those developed under the earlier 'learner development' heading in this section (see p.72). Specifically, the strategies enable the development of a system that enables greater responsibility for learning to be taken by employees, with a minimisation of time involvement from supervisors.

This system can co-exist with other more directed learning requirements.

Strategy space

This space represents the convergence of our recommended strategies in the other two spaces, to provide a coherent and integrated set of strategies to enhance the effectiveness of flexible delivery in workplaces through the development both of learner prepared-ness and workplace preparedness.

Workplace development space

Strategies suggested include those developed under the 'workplace development' heading in this section (see p.75) and include suggested characteristics for:

- training policy
- training structures
- training personnel

Source: Smith (2000b)

Suggested directions for policy and research

The research showed that a majority of the strategies identified are feasible for implementation in enterprises; others are supported only in a qualified way; and a small number being perceived as largely infeasible. Clearly, a sufficient number of the strategies for learner preparation and workplace preparation were considered feasible for enterprises to select from a wide range of strategies that will enhance their experiences with flexible delivery. These strategies and suggestions for implementation are shown in detail in the final chapter of this report.

Apart from the detail of those strategies and their implementation, several broad suggestions can also be made.

Further research

It is important to recognise that this research which addresses strategies for the development of learners and their workplaces to enable them to participate more effectively in flexible delivery is one of a very small number of research projects. We recommend that the research be extended in its scope with further enterprise, and that the issues of support be investigated at greater depth than we have been able in one project.

There are limitations in the present research due to the selection of only a limited number of enterprises that already were experienced with flexible delivery. There are also limitations in our methods such that research employing different methodologies could be effectively carried out to provide further data.

Development of self-directed learning skills

In the development of policy at vocational education and training authority level, and of funding arrangements to support policy, ongoing attention should be paid to the development of processes that will enhance the readiness of workplace learners for flexible delivery. Specifically, there is a need for the development of programs that will assist learners and their trainers with the development of self-directed learning skills.

We acknowledge that vocational education and training (VET) authorities at both Commonwealth and State levels are aware of these issues, and have already taken steps to investigate them and to develop appropriate measures. The same is true of VET research organisations such as the National Research and Evaluations Committee. However, the increasing interest in the provision of online programs of training necessitates a vigorous pursuit of the development of programs to facilitate self-directed learning, to ensure that the expenditure in these new developments provides for good returns to investment in terms of training participation and outcomes.

Developing systems within enterprises

Vigorous attention should also be paid to developing systems within enterprises to assist in the successful support of flexible delivery through adequate policy, process,

resources and training management and delivery. There is a need for more to be done with and for enterprises to provide adequate support for the development of effective strategies. Such work needs to be undertaken at VET authority level and at enterprise levels.

Again, it is acknowledged that there is already interest and support provided in this area through a number of different projects. At the enterprise level, however, there is need for very practical support in the development of these support strategies. There also appears to be a need for enterprises to consider the importance of the training efficiency and lifelong learning that can result from processes that supplement vertically driven training systems with more liberal learner-controlled systems that develop a greater sense of ownership.

Workplace training programs

Attention should be directed to the programs available to trainers and supervisors which facilitate the development of skills in workplace training. Increasing the attention paid to self-directed learning, enquiry, needs identification and self-directed learning activities in programs such as the Certificate IV in Workplace Training and Assessment would be a useful and practical step towards the development of required trainer skills.

It is acknowledged that, to some degree, the current certificate IV already addresses these issues through a number of modules, but a strengthening of this emphasis in a context of an expectation of greater commitment to flexible delivery through new technology-mediated delivery processes is advisable.

Business opportunities for registered training organisations

Registered training providers, both public and private, should investigate the business opportunities that may exist for them in the development of consultancy skills and programs to assist learners and workplaces in their attempts to become better prepared for flexible delivery.

Currently, considerable business opportunities exist for registered training organisations (RTOs) and similar training institutions to assist enterprises with the development of flexible learning materials and resources, and technology-mediated systems of delivery. Considerable opportunities also exist for the development of resources to underpin training packages and other enterprise training outside the scope of training packages. Consulting firms, private RTOs, and public providers, such as technical and further education (TAFE) institutes and universities have responded to calls from the marketplace. Many of these organisations also possess the skills to assist enterprises to develop policies, processes and skills to support flexible learning, and may find commercial value in doing so.

References

ANTA (Australian National Training Authority) 1996, *National flexible delivery taskforce, final report*, ANTA, Brisbane.

—— 1997, Guidelines for training package developers, ANTA, Brisbane.

Atkinson, R & McBeath, C (eds) 1990, *Open learning and new technology—conference proceedings*, Australian Society for Educational Technology, WA Chapter, Murdoch University, Perth.

Australian Senate Employment, Education and Training References Committee 1994, *Inquiry into the development of open learning in Australia, part 1*, Senate Printing Unit, Parliament House, Canberra.

—— 1995, Inquiry into the development of open learning in Australia, part 2, Senate Printing Unit, Parliament House, Canberra.

Beckett, D 1997, 'Disembodied learning—how flexible delivery shoots VET in the foot: Well, sort of', paper presented to the *NET*Working Online Conference*, EdNAVET Advisory Group, Adelaide.

Berryman, S E 1991, *Solutions*, National Council on Vocational Education, Washington, DC.

——1993, 'Learning for the workplace', *Review of research in education*, pp. 343–401.

Billett, S R 1993a, 'Authenticity and a culture of practice', *Australian and New Zealand Journal of Vocational Education Research*, vol.2, pp.1–29.

—— 1993b, 'What's in a setting—learning in the workplace', *Australian Journal of Adult and Community Education*, vol.33, pp.4–14.

—— 1994a, 'Searching for authenticity—a socio-cultural perspective of vocational skill development', *Vocational Aspects of Education*, vol.46, pp.3–16.

—— 1994b, 'Situated learning—a workplace experience', *Australian Journal of Adult and Community Education*, vol.34, pp.112–30.

—— 1996a, 'Situated learning: Bridging sociocultural and cognitive theorising', *Learning and Instruction*, vol.6, pp.263–80.

—— 1996b, 'Accessing and engaging vocational knowledge: Instructional media versus everyday practice', *Education and Training*, vol.38, pp.18–25.

—— 1998a, 'Appropriation and ontogeny: Identifying compatibility between cognitive and sociocultural contributions to adult learning and development', *International Journal of Lifelong Education*, vol.17, pp.21–34.

—— 1998b, 'Transfer and social practice', Australian and New Zealand Journal of Vocational Education Research, vol.6, pp.1–25.

Billet, S R & Rose, J 1996, 'Developing conceptual knowledge in the workplace', in *Learning in the workplace: Tourism and hospitality*, ed. J Stevenson, Griffith University, Centre for Learning and Work Research, pp.204–28.

Boote, J 1998, 'Learning to learn in vocational education and training: Are students and teachers ready for it?', *Australian and New Zealand Journal of Vocational Education Research*, vol.6, pp.59–86.

Brew, A & Wright, T 1990, 'Changing teaching styles', *Distance Education*, vol.11, pp.183–212.

Brockett, R G & Hiemstra, R 1991, Self-direction in adult learning: Perspectives on theory, research, and practice, Routledge, London.

Brooker, R & Butler, J 1997, 'The learning context within the workplace: As perceived by apprentices and their workplace trainers', *Journal of Vocational Education and Training*, vol.49, pp.487–510.

Brookfield, S 1986, *Understanding and facilitating adult learning*, Jossey Bass, San Francisco.

Brown, J S, Collins, A & Duguid, P 1989, 'Situated cognition and the culture of learning', *Educational Researcher*, vol.18, pp.32–42.

Brown, S 1997 'Using flexible resources for learning', in *Implementing flexible learning*, ed. C Bell, M Bowden & A Trott, Kogan Page, London, pp.43–51.

Burns, W, Williams, H & Barnett, K 1997 *Flexible delivery and women in TAFE*, DEETYA, Adelaide.

Business Council of Australia 1990, *Training Australians: A better way of working*, Business Council of Australia, Melbourne.

Caine, R & Caine, G 1991, *Making connections: Teaching and the human brain*, Association for Supervision and Curriculum Development, Alexandria, VA.

Calder, J & McCollum, A 1998, Open and flexible learning in vocational education and training, Kogan Page, London.

Calder, J, Morgan, A & Thorpe, M 1995, *Learning effectiveness of open and flexible learning in vocational education*, research series, no.58, Department for Education and Employment, Sheffield.

Clardy, A 2000, 'Learning on their own: Vocationally oriented self-directed learning projects', *Human Resource Development Quarterly*, vol.11, no.2, pp.105–25.

Collins, A 1991, 'Cognitive apprenticeship and educational technology', in *Educational values and cognitive instruction: Implications for reform*, ed. L Idol & B F Jones, Erlbaum Associates, Hillsdale, NJ, pp.121–38.

—— 1997, 'Cognitive apprenticeship and the changing workplace', keynote address to the 5th Annual International Conference on Post-compulsory Education and Training, Centre for Learning and Work Research, Griffith University, Queensland.

Collins, A, Brown, J S & Newman, S 1989, 'Cognitive apprenticeship: Teaching the crafts of reading, writing, and mathematics', in *Knowing, learning, and instruction: Essays in honour of Robert Glaser*, ed. L B Resnick, Erlbaum Associates, Hillsdale, NJ, pp.453–94.

Collins, A, Hawkins, J & Carver, S M 1991, 'A cognitive apprenticeship for disadvantaged students', in *Teaching advanced skills to at-risk students*, ed. B Means, C Chelmer & M S Knapps, Jossey-Bass, San Francisco, pp.216–43.

Cornford, I & Beven, F A 1999, 'Workplace learning: Differential learning needs of novice and more experienced workers', *Australian and New Zealand Journal of Vocational Education Research*, vol.7, no.2, pp.25–54.

Cornford, I & Gunn, D 1998, 'Work-based learning of commercial cookery apprentices in the New South Wales hospitalities industry', *Journal of Vocational Education and Training*, vol.50, pp.549–68.

Cunningham, J 1998, 'The workplace: A learning environment', paper presented at the First Annual AVETRA Conference, Sydney, February.

Cunningham, S, Tapsall, S, Ryan, Y, Stedman, L, Bagdon, K & Flew, T 1997, *New media and borderless education: A review of the convergence between global media networks and higher education provision*, DEETYA, Canberra.

Curran, J, Blackburn, R A, Kitching, J & North, J 1996, Establishing small firms' training practices, needs and difficulties and use of industry training organisations, Department for Education and Employment, London.

Di Vesta, F J & Rieber, L P 1987, 'Characteristics of cognitive engineering: The next generation of instructional systems', *Educational Communication and Technology Journal*, vol.35, pp.213–30.

Donaghy, B 1999, 'No flexibility without training', *Australian Training Review*, Oct/Nov/Dec, no.32, pp.30–1.

Dreyfus, S E 1982, 'Formal models vs human situational understanding: Inherent limitations on the modelling of business expertise', *Office: Technology and People*, vol.1, pp.133–65.

Edwards, R. 1995 'Different discourses, discourses of difference: Globalisation, distance education and open learning', *Distance Education*, vol.16, pp.241–55.

Ellington, H. 1997 'Flexible learning—your flexible friend', in *Implementing flexible learning*, ed. C Bell, M Bowden & A Trott, Kogan Page, London, pp.3–13.

Evan, T & Smith, P J 1999, 'Flexible delivery in Australia: Origins and conceptualisations', *FID Review*, vol.1, no.2/3, pp.116–20.

Evans, T D 2000, 'Flexible delivery and flexible learning: Developing flexible learners?'. in *Flexible learning, human resource and organisational development*, ed. V Jakupec & J Garrick, Routledge, London, pp.211–24.

Evans, T D 2001, 'Two approaches to workplace flexible delivery and assessment in a rural community', *Australian and New Zealand Journal of Vocational Education Research*, vol.2, pp.1–21.

Farmer, J A Jr, Buckmaster, A & LeGrand, B 1992, 'Cognitive apprenticeship', *New Directions in Adult and Continuing Education*, vol.55, pp.41–9.

Field, L 1997, *Training and learning in small business: Issues for research*, Research Centre for Vocational Education and Training, Sydney.

Flexible Delivery Working Party 1992, *Flexible delivery: A national framework for implementation in TAFE*, Flexible Delivery Working Party, Brisbane.

Ford, G W 1990, 'Rethinking skilling for a restructured workplace', occasional paper, Commission for the Future, Melbourne.

Fuller, A 1996, 'Modern apprenticeship, process and learning: Some emerging issues', *Journal of Vocational Education and Training*, vol.48, pp.229–48.
Garrison, D R 1995, 'Constructivism and the role of self-instructional course material: A reply', *Distance Education*, vol.16, pp.136–40.
Glaser, R 1982, 'Instructional psychology: Past, present, and future', *American Psychologist*, vol.37, pp.292–305.
Hall, R, Buchanan, J, Bretherton, T, von Barneveld, K & Pickersgill, R 2000, *Making the grade: Globalisation and the training market in Australia, volumes 1 & 2*, NCVER, Adelaide.
Harris, R & Volet, S 1996, 'Developing competence through work-based learning processes and practices: A case studies approach', paper presented at the third annual ANTARAC Conference, 31 October–1 November, Melbourne.
Harris, R, Willis, P, Simons, M & Underwood, F 1997, *Learning the job*, NCVER, Adelaide.
Hawke, G 1998, 'Learning, workplaces and public policy', paper presented to the First Annual Conference of AVETRA, Sydney, February.
Hayton, G 1993, 'Skill formation in the construction industry', paper presented to the Conference on Vocational Education and Training Research, Griffith University, 1–2 July.
Henry, J 2001, 'Work based learning and professional development in the VET sector of Australia', TAFE Frontiers, Melbourne.
Huang, T-C 2001, 'The effects of linkage between business and human resource management strategies', *Personnel Review*, vol.30, no.2, pp.132–51.
Institute of Personnel Development 2000, *Training and development in Britain 2000 (IPD Survey Report)*, Institute of Personnel Development, London.
Johnson, B & Christensen, L 2000, Educational research: Qualitative and quantitative approaches, Allyn & Bacon, Sydney.
Johnson, R 1990, *Open Learning*, National Board of Employment, Education and Training, commissioned report no.4, June, Canberra.
Kember, D 1995, *Open learning courses for adults: A model of student progress*, Educational Technology Publications, Englewood Cliffs, NJ.
Kember, D & Murphy, D 1990, 'Alternative new directions for instructional design', *Educational Technology*, vol.30, pp.42–7.
Kidd, A L 1987, Knowledge acquisition for expert systems: A practical handbook, Plenum Press, New York.
King, B 1996, 'Life, learning, and flexible delivery', South Sydney Institute of TAFE mimeo.
Knowles, M 1975, Self-directed learning: A guide for learners and teachers, Association Press, New York.
Kornbluh, H & Greene, R 1989, 'Learning, empowerment and participative work processes: The educative work environment', in *Socialisation and learning at work: A new approach to the learning process in the workplace an society*, ed. H Leymann & H Kornblu, Gower, Brookfield, VT.
Lave, J & Wenger, E 1991, *Situated learning—legitimate peripheral participation*, Cambridge University Press, Cambridge.
Lundin, R 1998, 'Flexible delivery of continuing professional education: Models, issues and trends', paper available at website www.usask.ca./dlc/FDLP.htm, accessed 26 June 1998.
Maglen, L, Hopkins, S & Burke, G 2001, *Training for productivity*, NCVER, Adelaide.
Marland, P 1984, 'Stimulated recall from video: Its use in research on the thought processes of classroom participants', in *Video in higher education*, ed. O Zuber-Skerritt, Kogan Page, London, pp.156–65.
Marland, P, Patching, W & Putt, I 1992, 'Thinking while studying: A process tracing study of distance learners', *Distance Education*, vol.13, pp.193–217.
Marsick, V J 1988, 'Learning in the workplace: The case for reflectivity and critical reflectivity', *Adult Education Quarterly*, vol.38, pp.187–98.
McDermott, R 1999, 'Learning across teams: The role of communities of practice in team organisation', *Knowledge Management Review*, vol.2, no.2, complete issue.
McKavanagh, C W 1996, 'Comparison of classroom and workplace learning environments', in *Learning in the workplace: Tourism and hospitalit*, ed. J Stevenson, Brisbane, Griffith University, pp.188–203.
Mezirow, J 1991, *Transformative dimensions of adult learning*, Jossey Bass, San Francisco.
Misko, J 1994, Flexible delivery: Will a client focussed system mean better learning?, NCVER, Adelaide.
Mocker, D W & Spear, G E 1982, *Lifelong learning: Formal, non-formal, informal and self-directed*, ERIC Clearinghouse on Adult, Career and Vocational Education, Columbus, OH.
Noe, R A 1998, 'An investigation of the determinants of successful assigned mentoring relationships', *Personnel Psychology*, vol.41, pp.457–79.

Pea, R D 1993, 'Learning scientific concepts through material and social activities: Conversational analysis meets conceptual change', *Educational Psychologist*, vol.28, pp.165–77.
Peoples, K, Robinson, P, & Calvert, J 1997, From desk to disk: Staff development for VET staff in flexible delivery, ANTA, Brisbane.
Poell, R F, Chivers, G E, Van der Krogt, F J & Wildesmeersch, D A 2000, 'Learning-network theory: Organising the dynamic relationships between learning and work', *Management Learning*, vol.31, no.1, pp.25–49.
Powney, J & Watts, M 1987, *Interviewing in educational research*, Routledge & Kegan Paul, London.
Redding, R E 1995, 'Cognitive task analysis for instructional design', *Distance Education*, vol.16, pp.88–106.
Robertson, I 1996, 'Workplace based training in small business enterprises: Employers' views of factors which contribute to a successful program', Office of Training and Further Education, Melbourne.
Robson, C 1993, Real world research: A resource for social scientists and practitioner-researchers, Blackwell, Oxford.
Roebuck, M 1987, 'Flexible learning—developments and implications in education', in *Aspects of educational technology XX*, ed. F Percival, D Craig & D Buglass, Kogan Page, London, pp.326–32.
Rogoff, B 1984, 'Introduction: Thinking and learning in social context', in *Everyday cognition: Its development in social context*, ed. B Rogoff & J Lave, Harvard University Press, Cambridge, Mass., pp.1–8.
—— 1995, 'Observing sociocultural activity on three planes: participatory appropriation, guided participation, apprenticeship', in *Sociocultural studies of mind*, ed. J W Wertsch, A Alvarez & P del Rio, Cambridge University Press, Cambridge, pp.139–64.
Rojewski, J W & Schell, J W 1994, 'Cognitive apprenticeship for learners with special needs: An alternate framework for teaching and learning', *Remedial and Special Education*, vol.15, pp.234–43.
Rumble, G 1989, '"Open learning", "distance learning" and the misuse of language', in *Key Issues in Open Learning—a Reader: An Anthology from the Journal Open Learning 1986–1992*, ed. A Tait, Longmans, Harlow, Essex, pp.24–44.
Ryder, J M & Redding, R E 1993, 'Integrating cognitive task analysis into instructional systems development', *Educational Technology Research and Development*, vol.41, no.2, pp.75–96.
Sadler-Smith, E 1996, '"Learning styles" and instructional design', *Innovations in Education and Training International*, vol.33, pp.185–93.
—— Down, S, & Lean, J 2000, 'Modern learning methods: Rhetoric and reality', *Personnel Review*, vol.29, no.4, pp.474–90.
Sadler-Smith, J M, Gardiner, P, Badger, B, Chaston, I, & Stubberfield, J 2000, 'Using collaborative learning to develop small firms', *Human Resource Development International*, vol.3, vol.3, pp.285–306.
Sadler-Smith, J M & Smith, P J 2001, 'Facilitating effective work-based learning in smaller firms', workshop presented at the Work-based Learning: Making it Happen Conference, Churchill College, University of Cambridge, March.
Smith, P J 1997, 'Flexible delivery and industry training: Learning styles and learning contexts', in *Open, flexible and distance learning: Education in the 21st century*, ed. J Osborne, D Roberts & J Walker, University of Tasmania, Launceston, pp.421–27.
—— 1999, 'Client focussed flexible delivery—an empirical study', in *Open, flexible, and distance learning: Challenges of the new millennium*, proceedings of the Biennial Forum of the Open and Distance Learning Association of Australia, September, pp.471–8.
—— 2000a, 'Flexible delivery and apprentice training: Preferences, problems and challenges', *Journal of Vocational Education and Training*, vol.52, no.3, pp.483–502.
—— 2000b, 'Preparing for flexible delivery in industry: Learners and their workplaces', unpublished PhD Thesis, Deakin University, Geelong.
—— 2000c, 'Preparedness for flexible delivery among vocational learners', *Distance Education*, vol.21, no.1, pp.29–48.
—— 2001a, 'Technology student learning preferences and the design of flexible learning programs', *Instructional Science*, vol.29, no.3, pp.237–54.
—— 2001b, '"Modern" learning methods: Rhetoric and reality—further to Sadler-Smith et al.', *Personnel Review*, in press.
—— 2002, 'Workplace learning and flexible delivery', *Review of Educational Research*, in press.
Sofo, F 1999, *Human Resource Development*, Business and Professional Publishing, Warriewood, NSW.

Stanek, M B 2001, 'Global mentoring programs: Business relationships beyond traditional borders', *Journal of Workplace Learning*, vol.13, no.2, pp.66–72.
Stott, T & Sweeney, J 1999, 'More than a match', *People Management*, vol.13, June, pp.45–9.
Strickland, A, Simons, M, Harris, R, Robertson, I, Harford, M & Edwards, A 2001, Evaluating on- and off-the-job approaches to learning and assessment in apprenticeships and traineeships, NCVER, Adelaide.
Taylor, M 1996, 'Learning in the workplace: A study of three enterprises', paper presented at the ANTARAC third annual conference, Researching and Learning Together, Melbourne, October–November.
Unwin, L & Wellington, J 1995, 'Reconstructing the work-based route: Lessons from the modern apprenticeship', *The Vocational Aspect of Education*, vol.47, pp.337–52.
Van der Krogt, F J 1998, 'Learning-network theory: The tension between learning systems and work systems in organisations', *Human Resource Development Quarterly*, vol.9, no.2, pp.58–77.
von Glasersfeld, E 1987, 'Learning as a constructive activity', in *Problems of representation in the teaching and learning of mathematics*, ed. C Janvier, Lawrence Erlbaum, Hillsdale, NJ.
Vygotsky, L S 1978, Mind in society—the development of higher psychological processes, Harvard University Press, Cambridge, MA.
Warner, D, Christie, G & Choy, S 1998, The readiness of the VET sector for flexible delivery including on-line learning, ANTA, Brisbane.
Welton, M 1991, Toward development work: The workplace as a learning environment, Deakin University Press, Geelong.
Whittaker, G 1995, 'The BA in post qualifying social work: Preliminary evaluation report', Glasgow, Glasgow Caledonian University, cited in F Reeve, J Gallacher & T Mayes 1998, 'Can new technology remove barriers to work-based learning?', *Open Learning*, vol.13, pp.18–26, p.19.
Yinger, J & Eckland, R 1975, *Problem solving with children*, Far West Laboratory for Educational Research and Development, San Francisco, California, cited in Ellington, 1997.
Young, M F 1993, 'Instructional design for situated learning', *Educational Technology Research and Development*, vol.41, no.1, pp.43–58.

Appendix A: Interview data-collection instrument

Interviews with training management personnel

This schedule is designed to provide the opportunity for open-ended and directed assessment of feasible strategies in supporting learners and workplaces in the provision of flexible learning. It is a guide only.

Notes:

- Interviews will be tape-recorded and transcribed.
- Questions identified with roman numerals are primary questions or 'conversation starters' grounded in the interviewee's own experience. We need to be careful to focus on the question 'what is feasible?' so will need to control excessive diversion to 'what we do' and 'what works'.
- Statements located inside the tables can be used as guides.
  - In the case where the interviewee covers the relevant strategies the table can be used as a recording device.
  - In cases where the interviewee does not cover the listed strategies, these statements can be used in the form of secondary questions. For example: Do you believe that xxxxx is a feasible strategy?'
- Space has been allowed for notes or extra strategies identified by interviewees.

Although the ideas of 'currently used?' and 'successful? are not the focus of the research, they do provide some guidance on 'feasibility'. Therefore, their recording is justified if they should arise in the course of general discussion.

INTERVIEW SCHEDULE

Strategies to develop the preparedness of learners and their workplaces for flexible delivery

As a starting point, we would like to ask you about the ways in which you currently prepare learners for flexible learning. We would also like to know if you are currently employing the strategies that we outline and, if so, if they are successful. Where you are not using the strategies, we would like to know if you consider that they are feasible. From time to time during the interview we will refer to these three aspects—current use of strategies, their level of success and their feasibility.

Which of the following strategies do you use to prepare learners for flexible learning:

Strategy	Currently used	Successful	Feasible
1.1 Encouraging workers to work with trainers to identify learning goals that specify the knowledge, skills and concepts to be learned?			
1.2 Encouraging workers to work with trainers to develop and negotiate learning plans/ comprehensive learning contracts (including tasks, learning resources, liaison with other workers)?			
1.3 Having regular discussions with workers to monitor their learning progress and to modify plans/learning contracts?			
1.4 What other strategies do you employ?			

How can a range of learning experiences be provided for trainees:

Strategy	Currently used	Successful	Feasible
2.1 By providing opportunities for workers to withdraw from work activities to make use of learning resources?			
2.2 By exposing them to a range of experiences? A range of problem-solving situations?			
2.3 Through encouragement/facilitation of a range of learning strategies/resources that are verbally or textually presented?			
2.4 Through assistance with the acquisition of skills in structured observation and questioning?			
2.5 Do you have any other suggestions?			

What sorts of strategies might help to place learning into a work context:

Strategy	Currently used	Successful	Feasible
3.1 Provision of increasing responsibility, work complexity and participation as learning progresses?			
3.2 Provision of regular opportunities within the production schedule for discussion of learning, skills, and work?			

Can we now turn our focus to the workplace rather than the learner?

What policies does your organisation have in place to support training:

Strategy	Currently used	Successful	Feasible
4.1 Do any policies recognise: □ The value placed on training and on learners? □ How assessment is to be carried out and what the rewards for training might be? □ The importance placed on a diversity of experience? □ Both skills development and underpinning knowledge?			

Can you describe the development of any training structures that:

Strategy	Currently used	Successful	Feasible
5.1 Identify training personnel and their roles?			
5.2 Provide for training plan development for both the enterprise and individual workers?			
5.3 Enable access to people, learning resources and experiences as needed?			
5.4 Enable partnership arrangements with external training providers, and management of those relationships?			
5.5 Indicate support availability for learners in accessing learning experiences? Learning materials?			

Does your organisation have mechanisms for the development of trainers to become effective in:

Strategy	Currently used	Successful	Feasible
6.1 Helping workers to learn?			
6.2 Ensuring workers develop the skills/understanding necessary to achieve learning goals/contracts?			
6.3 Development of a supportive learning environment where there is encouragement of questioning and provision of experts who are willing to assist in learning?			

Appendix B: Enterprise profiles

Enterprise profiles—Manufacturing

Enterprise A

Industry sector:	Manufacturing
Nature of business:	Chemical manufacture
Ownership:	Australian subsidiary of a multinational US-owned company
Number of employees:	100
Geographic location:	Regional Victoria, single site
Training structure:	Training manager responsible for implementation of training policy, and has other non-training responsibilities.
Training objectives:	Occupational health and safety Technical Quality Process Team work
Training involvement:	Training is undertaken on a regular basis by all employees, largely in a competency environment. Considerable use is made of learning resources especially prepared through outsourcing; and of on-job training.

Enterprise B

Industry sector:	Textile, clothing and footwear
Nature of business:	Early stage wool processor
Ownership:	Fully owned subsidiary of offshore company

Number of employees:	140
Geographic location:	Regional Victoria, single site
Training structure:	Organisational Development Manager has responsibility for training
Training objectives:	Part of a continuous improvement process
	Multi-skilling to enable within plant mobility
	Management training
	Engineering training
	Production skills training
Training involvement:	Around 50% of employees are currently involved in structured training.

Enterprise C

Industry sector:	Metals, engineering and related services
Nature of business:	Fabricated metal products
Ownership:	Joint venture
Number of employees:	420
Geographic location:	Regional Victoria, single site
Training structure:	Training manager and training officers;
	moving towards outsourcing training management
Training objectives:	Remuneration linked to training achievement
	Management training
	Production skills training
	Safety and environmental training
Training involvement:	Most employees have undergone some form of training over the past several years.

Enterprise D

Industry sector:	Manufacturing
Nature of business:	Manufacture, import and merchandising of technical electrical products to industry
Ownership:	Private
Number of employees:	536
Geographic location:	Australia-wide, head office in Melbourne
Training structure:	Training manager and two training staff
	Four trainers in each State
	Registered Training Organisation
Training objectives:	Management
	Technical
	Sales
	Customer training

Enterprise E

Industry sector:	Textile, clothing and footwear
Nature of business:	Design and marketing of street wear
Ownership:	Private
Number of employees:	180
Geographic location:	Regional Victoria, single site
Training structure:	Human Resource Manager has responsibility for training.
Training objectives:	Training core driver for business growth
	Individual growth
	English language and literacy
	Management
	Warehousing and transport
	Retail
Training involvement: year.	Most staff are involved in some form of training each

Enterprise profiles—Human services

Enterprise F

Industry sector:	Health and community services
Nature of business:	Public hospital
Ownership:	Public
Number of employees:	1950
Geographic location:	Metropolitan Melbourne, single site
Training structure:	Education and training centre with 6 staff. Mentors are available but not formally recognised as trainers.
Training objectives:	Professional Paraprofessional Ward Clerical
Training involvement:	Broad range of programs offered across all staff. Workshops are provided together with mentoring and on-the-job practice, but not formally assessed.

Enterprise G

Industry sector:	Health and Community Services
Nature of business:	Provision of aged and disability services
Ownership:	Specialised component of publicly owned enterprise
Number of employees:	150
Geographic location:	Single site but with outreach services
Training structure:	Recruitment and training functions are combined in the section, with support from the training structure in the broader organisation
Training objectives:	Maintenance of a quality care environment through: - induction - first-aid - encouragement to Certificate III in Community Services
Training involvement:	Mandatory induction and first-aid; otherwise negotiated between individuals and the training manager.

Enterprise H

Industry sector:	Community services
Nature of business:	Regional office for a statutory body offering a range of services on behalf of other government departments
Ownership:	Public
Number of employees:	1200
Geographic location:	Distributed, head office in Melbourne
Training structure:	Training manager responsible for implementation of training policy; responsibility for brokering and co-ordination, accreditation, sourcing of training; registered training organisation.
Training objectives:	Business Community services Fraud control
Training involvement:	All employees are encouraged to maintain an up-to-date team and individual learning plan. Three hours per week training is provided. Wide range of resource materials used, including online. Classroom learning is available with competency verification in the workplace.

Enterprise profiles—Retail

Enterprise I

Industry sector:	Wholesale, retail and personal services (WRAPS)
Nature of business:	Retail
Ownership:	Proprietary limited company; chain of stores
Number of employees:	23 000 in total; in stores and head office
Geographic location:	Australia-wide
Training structure:	Formal training structure with identifiable personnel; training manager has a national role with some decentralised support
Training objectives:	Management and executive development Retail operations Technical training

Training involvement:	100% It is estimated that all employees would have received some training throughout the year.

Enterprise J

Industry sector:	Food retailing
Nature of business:	Production and retail of focussed product line
Ownership:	Franchising business
Number of employees:	Over 9000
Geographic location:	More than 440 franchises operate throughout Australia and New Zealand; franchising office in Melbourne
Training structure:	Training manager, 11 training staff mostly in Victoria throughout Australia. Registered training organisation Franchise outlets employing a trainee must hold Certificate IV in Workplace Training and Assessment
Training objectives:	Ensuring product and service quality and homogeneity Management Production Customer service
Training involvement:	Franchise holders undergo mandatory training; food production staff undergo mandatory training; counter staff undergo mandatory training.

Enterprise profile—Hospitality

Enterprise K

Industry sector:	Hospitality
Nature of business:	Restaurant
Ownership:	Proprietary limited company
Number of employees:	20
Geographic location:	Regional, single site
Training structure:	Formal training structure with managers involved in delivery; approximately 50% of a manager's responsibility

Training objectives:	Management development
	Human resource training
	Formal and informal training: front and back-of-house
	Extensive provision of on-the-job training around 100 participants per year, including apprentices, trainees and VET in the VCE students
Training involvement:	100%

Enterprise profile—Automotive

Enterprise L

Industry sector:	Automotive retail
Nature of business:	An industry association
Ownership:	Small business members
Number of employees:	Represents 5000 small businesses in Victoria and Tasmania
Geographic location:	Statewide, head office in Melbourne
Training structure:	Training manager, three field officers
	Registered training organisation
	Two group training schemes (Victoria and Tasmania)
Training objectives:	Servicing member requirements in technical and management skills, and apprenticeships in body and mechanical
Training involvement:	Accessed by individual businesses on an as-needs basis; apprentices serviced by field officers and local businesses and training providers.

Appendix C: Letters of invitation and plain language statements

Plain language statement (letter of request to organisational management)

Dear (name of enterprise senior manager)

I am writing to you to seek your consent to your organisation's involvement in a research project we are conducting through funding from the National Centre for Vocational Education Research, an independent body focussing on research in VET. Deakin University has been selected to conduct this research, in partnership with Dr Lyn Wakefield, of the Gordon Institute of TAFE, and Mr Ian Robertson of the Box Hill Institute of TAFE. I am the principal investigator for the project.

As I'm sure you are aware, the flexible delivery of training in industry has been endorsed by industry bodies and by training authorities as an important method available for industry training. This research is aimed to identify strategies through which both learners in the workplace, and enterprises, can more effectively make use of flexible delivery for quality training outcomes.

This research has three related aims:

- testing the feasibility for application in enterprises, of a number of strategies identified through previous research, designed to enhance the effectiveness of flexible learning in workplaces
- the identification, together with enterprises, of other strategies either being used, or that may be applicable in enterprises
- development of implementation processes, within enterprises, for each feasible strategy

To complete this research, I seek involvement from (name of training person), your manager responsible for training matters. We wish to interview (name of person) once, for a period of around 90 minutes, to gather (his/her) views on the identified strategies, and to identify any others that your enterprise may be using and willing to tell us about. The sorts of strategies we will wish to talk about can be summarised as relating to:

Preparing learners

- development towards learning with less trainer provided structure
- develop skills and concepts through a range of learning strategies and materials
- develop their own learning within a community of practice

Preparing workplaces

- development of clear training policies
- development of training structures
- development of trainer skills to support:
  - self-directed learning
    acquisition of skills and underpinning knowledge
  - participation in a community of practice

That interview would take place at a mutually agreed time, preferably on your premises. We will wish to audiotape the interview, with (names) permission. The audiotape is only for transcription purposes after the interview. The name of your organisation and staff member will not be published in any form. Results of the research will only be published in aggregated form, such that neither your organisation nor staff will be identifiable. We would also like to gather some basic data on your organisation, such as number of employees, annual gross turnover, industry sector(s), product types, and whether you employ training staff or outsource training to others. We will use that data to relate to research findings. For example, strategies identified in large companies may be different from those identified in smaller companies; and there may be industry sector differences.

We would also subsequently like to conduct a single 90-minute discussion group with (name) and three of your front-line supervisors, to be identified with (name of training manager). We will wish also to audiotape the discussion, with permission from the participants. The audiotape is only for transcription purposes after the discussion. Again, complete anonymity will be maintained. To preserve anonymity, all data will be coded and the code identifying individual companies or personnel will be stored separately from the data itself. Staff from your company who participate can withdraw from the research at any time and data collected will be discarded and not used in the research.

We will also be providing (name of training manager) with a copy of our report, prior to its publication, to ensure accuracy in what we have said.

We are seeking permission from twelve different organisations, of differing sizes and industry sectors, and have chosen yours as one of the twelve because of your known interest in training.

If you are willing to allow your organisation to participate, we ask that you provide your consent on the consent form attached. Should at any stage you have concerns about this project, you may contact either me, at Deakin University on 03 5227 1452, or contact the Secretary of the Ethics Committee at Deakin University, as shown on the bottom of this letter.

Yours sincerely

Dr Peter Smith
Lecturer in Professional Education and Training

Plain language statement (for training management personnel)

Thank you for being willing to consider participation in this research project, for which your organisation has given consent to its participation. We are conducting this research through funding from the National Centre for Vocational Education Research, an independent body focussing on research in VET. Deakin University has been requested to conduct this research, in partnership with Dr Lyn Wakefield of the Gordon Institute of TAFE, and Mr Ian Robertson of the Box Hill Institute of TAFE. I am the principal investigator for the project.

As I'm sure you are aware, the flexible delivery of training in industry has been endorsed by industry bodies and by training authorities as an important method available for industry training. This research is aimed to identify strategies through which both learners in the workplace, and enterprises, can more effectively make use of flexible delivery for quality training outcomes.

This research has three related aims:

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- the identification, together with enterprises, of other strategies either being used, or that may be applicable in enterprises
- development of implementation processes, within enterprises, for each feasible strategy

To complete this research, I seek your involvement as the person responsible for training matters. I wish to interview you once, for a period of around 90 minutes, to gather your views on the identified strategies, and to identify any others that you enterprise may be using and willing to tell us about. The sorts of strategies we will wish to talk about can be summarised as relating to:

Preparing learners

- development towards learning with less trainer provided structure
- develop skills and concepts through a range of learning strategies and materials
- develop their own learning within a community of practice.

Preparing workplaces

- development of clear training policies
- development of training structures
- development of trainer skills to support:
  - self-directed learning
  - acquisition of skills and underpinning knowledge
  - participation in a community of practice

That interview would take place at a mutually agreed time, preferably on your premises. I will wish to audiotape the interview, with your permission. The audiotape is only for transcription purposes after the interview. Your name and that of your

organisation will not be published in any form. Results of the research will only be published in aggregated form, such that neither your organisation nor staff will be identifiable. We would also like to gather some basic data on your organisation, such as number of employees, annual gross turnover, industry sector(s), product types, and whether you employ training staff or outsource training to others. We will use that data to relate to research findings. For example, strategies identified in large companies may be different from those identified in smaller companies; and there may be industry sector differences.

We would also subsequently like to conduct a single 90-minute discussion group with you and three of your front-line supervisors, to be identified together with you. Again, complete anonymity will be maintained. To preserve anonymity, all data will be coded and the code identifying individual companies or personnel will be stored separately from the data itself. You, or staff from your company who participate can withdraw from the research at any time and data collected will be discarded and not used in the research.

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Yours sincerely

Dr Peter Smith
Lecturer in Professional Education and Training

Plain language statement (for focus group personnel)

Thank you for being willing to consider participation in this research project, for which your organisation has given consent to its participation. We are conducting this research through funding from the National Centre for Vocational Education Research, an independent body focussing on research in VET. Deakin University has been requested to conduct this research, in partnership with Dr Lyn Wakefield of the Gordon Institute of TAFE, and Mr Ian Robertson of the Box Hill Institute of TAFE. I am the principal investigator for the project.

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- testing the feasibility for application in enterprises, of a number of strategies identified through previous research, designed to enhance the effectiveness of flexible learning in workplaces
- the identification, together with enterprises, of other strategies either being used, or that may be applicable in enterprises
- development of implementation processes, within enterprises, for each feasible strategy

To complete this research, I seek your involvement as a supervisor of staff. I wish to have a discussion with you, together with (name of training manager) and two of your colleagues once, for a period of around 90 minutes, to gather your views on the identified strategies. The sorts of strategies we will wish to talk about can be summarised as relating to:

Preparing learners

- development towards learning with less trainer provided structure
- develop skills and concepts through a range of learning strategies and materials
- develop their own learning within a community of practice

Preparing workplaces

- development of clear training policies
- development of training structures
- development of trainer skills to support:
  - self-directed learning
  - acquisition of skills and underpinning knowledge
  - participation in a community of practice

That discussion would take place at a mutually agreed time, preferably on your premises. I will wish to audiotape the discussion, with your permission. The audiotape is only for transcription purposes after the discussion. Your name and that of your organisation will not be published in any form. Results of the research will only be

published in aggregated form, such that neither your organisation nor staff will be identifiable.

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Yours sincerely

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